internet Australasia

http://www.interaus.net
ISSN 1323-0484 PP 255003/01814

DOUBLE BAY NEWSAGENCY
$ 5.95

@ MAGAZINE

Mr Toyota in Cyberspace

The Netscape Interview

Intranet or Internet

Time Traps Online

inside: Beginners' Guide

win two tickets to New Zealand

INTERNET AUSTRALASIA · Incorporating THE NET (NZ) · VOLUME 2, ISSUE 4 · MAY 1996 · AUS $5.95, NZ $6.95

LARGEST AUDITED INTERNET MAGAZINE IN AUSTRALASIA

INternet?

get into it for less and a chance to WIN a fast 28.8k modem

Supplied at 1World Valued at $499

Join Netspace Online Systems this month, and automatically go into the draw to win a fast 28.8k modem

Dialup SLIP/PPP
World Wide Web, Domain Names
No Download Fees or Peak Rates
Create your own Homepage!
Permanent Connections
Over 100 Dialin Lines

Hobbyist Access

- **$170 pa for 20 hours per month for 12 months. (70c per hour)**
- **$270 pa for 40 hours per month for 12 months (56c per hour)**

Priority Access and services available for business.

Special rates for education.

($25 registration fee applies)

Now in Melbourne and Sydney

http://www.netspace.net.au

Phone: (03) 9889-1122
Modem: Mel (03) 9889-3445
Syd (02) 669-3444
email: win@netspace.net.au

ACN 067 116 269

KDTNS012

netspace ONLINE SYSTEMS

1World

On CompuServe, there's something for everyone.

While you're in the office, discover a solution to the bug in your software faster than ringing the dealer. At home, interact with others who share your particular passion in any of the thousands of special interest groups. Or better still revel in our continuous global partyline.

All you need is a personal computer and a modem to join the information superhighway.

We've been along the road. So we have designed CompuServe with you in mind to make life easy for you. Even our access to the Internet is friendlier with our Internet Made Easy℠ strategy.

Internet made easy

And we keep getting better. Faster modems, expanded network and great customer care.

CompuServe is cheaper than you think and we keep driving the rates down. There are even special access rates after hours as we know you are too busy during the day.

Getting started is also easy. Send in the coupon for the CompuServe Passport.

We include our easy to use access software, your User ID, password and when you join, a free directory of services and software guide. The CD version even includes a tutorial.

For your FREE CompuServe Passport, please...

Fax (02) 410 4223
Call 1 800 025 240
Mail CompuServe Pacific
475 Victoria Avenue,
Chatswood, 2067

CompuServe Priority Coupon

YES - Please rush me

- ☐ CompuServe Passport
- ☐ CD (Windows) ☐ Windows ☐ Macintosh
- ☐ Please send an application for a monthly invoice

Name _____

Street Address _____

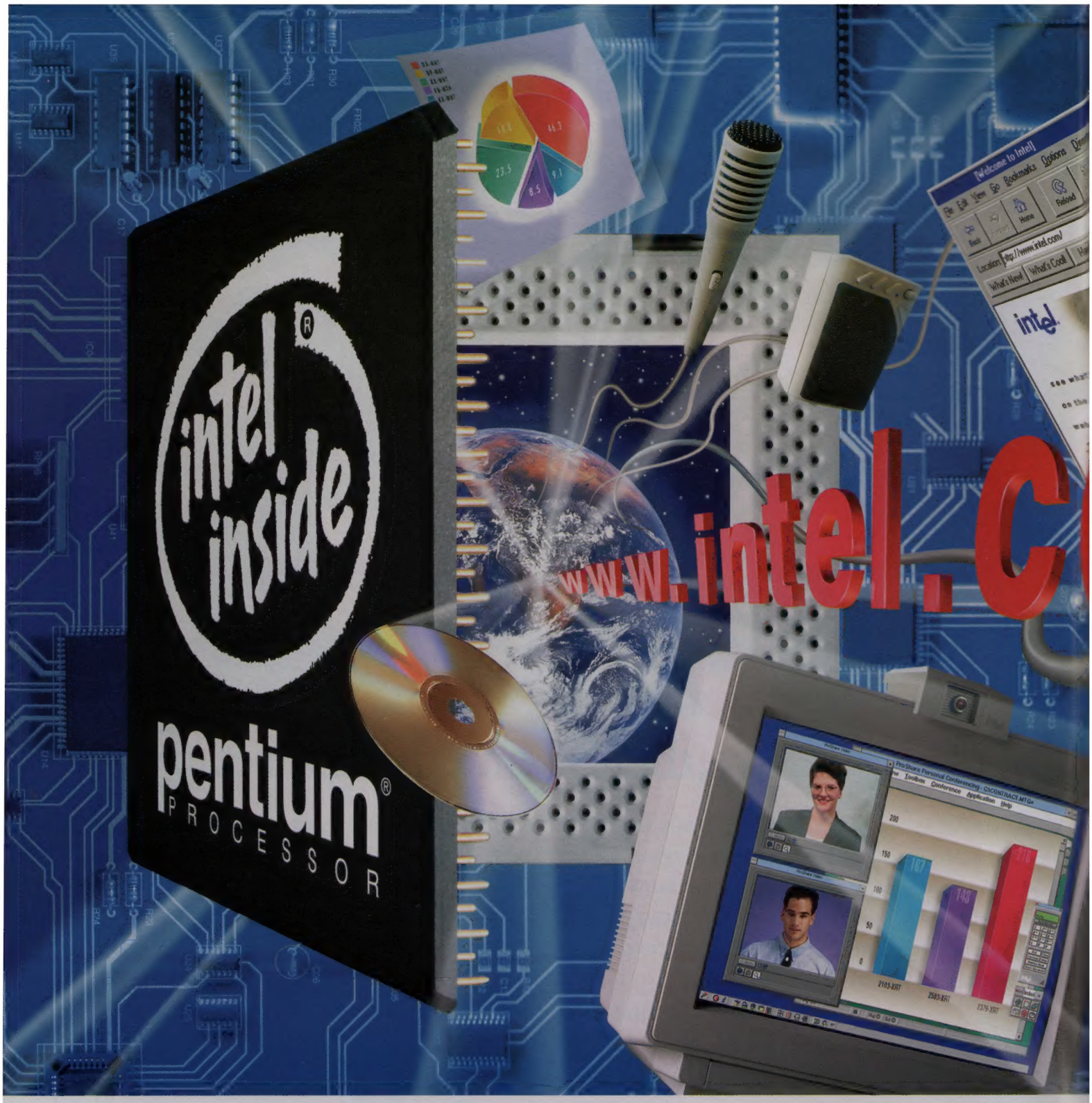
Suburb _____ Postcode _____

Telephone ( ) _____

CompuServe® Pacific

The best people and information online.

IA510



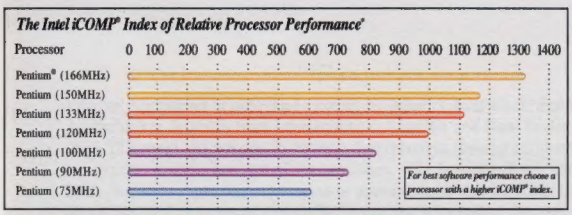
Open the doorway to more

intel inside
pentium
PROCESSOR

Whether you're video conferencing halfway around the world, presenting an important proposal, or doing a search on the Internet, a PC with an Intel Pentium® processor inside helps you communicate like never before.

A Pentium processor brings the richness of multi-media to everything you do on your PC. You can manage data, embed photographs in an e-mail, and create presentations with incredible graphics, sound and video.

dynamic communications.



© 1996 Intel Corporation. *Source: iCOMP®: A Simplified Measure of Relative Intel Microprocessor Performance, Intel Corp., 1992.

The Pentium processor. Your doorway to effective communications. For more information about the Intel Pentium processor, simply visit our new World Wide Web site.

www.intel.com

intel®

Contents

8 **Letters to the Editor**

10 **NetNews + Web Watch**
Announcements and events + Local Web sites reviewed

36 **Net Diary**
Current events coverage

46 **Newsgroupies**
Our regular look at newsgroups

52 **Australian Java Users Group**

54 **E-pals**

55 **Netpicking**
More humour from our bony columnist

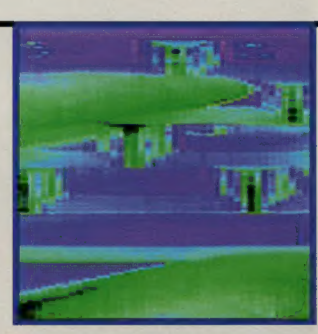
71 **Globetrotting**
Web sites for general fun and madness

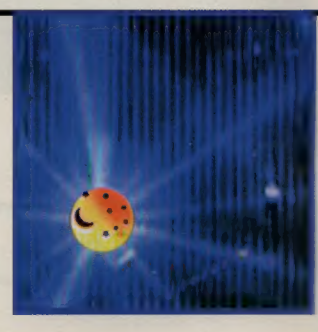
86 **New Zealand on the Net**

88 **New Zealand Globetrotting**

92 **Imprint**
Internet books reviewed

103 **ISP Directory**
Our comparative list of Australian Internet Service Providers





22 **Mr Toyota in Cyberspace**
By Morris Jones

58 **Time Traps On-line**

62 **Internet or Intranet**
By Brendon Lansdowne

66 **The Netscape Interview:**
John Hahn

97 **Beginners Guide**
Sponsored by Woodslane Press

Editor
Kosta Nikas
ed@interaus.net

Assistant Editor
Morris Jones
morris@interaus.net

Advertising Manager
Ben Calvo
benc@interaus.net

Art Director
Ana Marko

Senior Designer
Piotr Kulaga
piotrk@interaus.net

Graphic Designer
Christine Yates
cmy@interaus.net

Administration
Ronalda Karam
ronalda@interaus.net

Distribution
NDD

Cover Illustration
Piotr Kulaga

Australian Office
GPO Box 2518
Sydney 2001
phone: (61+2) 235 1550
fax: (61+2) 247 3330

New Zealand Office
Bruce Porteous
PO Box 14-775 Panmure
Auckland New Zealand
phone: +649 302 0715
fax: +649 302 0714
brucep@nzonline.ac.nz

Internet Australasia is published monthly by *Internet Australasia Publishing* Pty Ltd ACN No. 071 861 839. *Internet Australasia* is available from newsagents in Australia and New Zealand. Australian subscriptions are available for A$65 (12 issues). All material in *Internet Australasia* is copyright and may not be published in part or in whole without the express written consent of the publisher. All correspondence should be addressed to GPO Box 2518, Sydney 2001. Inquiries regarding advertising or subscriptions may be made by phone to (61+2) 235 1550 or by facsimile on (61+2) 247 3330 or by email to subs@interaus.net. Information presented here is believed to be accurate at the time of going to press. The publisher is not responsible for claims made by advertisers or opinions expressed.

Editorial

"THE CERTAIN PROOF THAT INTELLIGENT LIFE EXISTS ELSEWHERE IN THE UNIVERSE IS THAT NO ONE HAS BOTHERED TO MAKE CONTACT WITH US." ANONYMOUS

AND WHY SHOULD THEY? OUR LEGISLATORS WOULD PROBABLY WANT TO CENSOR THE COMMUNICATION ANYWAY. WHO KNOWS? NSW LEGISLATORS ARE ON THEIR WAY TO VISIT THE WIZARD OF CENSORSHIP, HOPING TO SUCCESSFULLY CENSOR THE NET DOWN UNDER. YOU'D THINK THEY WOULD'VE LEARNT BY NOW AND NOT MAKE MOVES THAT WOULD INSULT OUR INTELLIGENCE.

Kosta Nikas

Editor

Has anyone told them that no matter what they do here, nothing prevents a user from accessing an "inappropriate" site overseas? Unless of course they are now thinking of monitoring our steps as well?! I get annoyed when I see bureaucrats and politicians, rushing into politically motivated decisions and token gestures. That's precisely what they are! No matter what my personal views are about censorship, the fact is, that if I wanted to censor a global communications system like the internet, out of some legitimate concern, there is no point applying localised methodologies to tackle the problem. It just won't work. It's a global matter that requires global attention. If you are really serious about issues that are representative of the Australian community deal with them properly (e.g. instigate an international forum for debate on the issue...etc..Ooops! I'm giving them ideas!) or don't deal with them at all! You are free to represent our interests but you are not free to insult our intelligence.

Intranet- The quiet and fast moving revolution...

With the application of existing internet technologies, a new revolution is quietly taking place: The Intranet. Competition has always inspired the creation of new methods and tactics to deal with it, and to assist businesses in retaining their market share, as well as having the edge over their competitors. In this country, my view is that we have either suffered from technophobia or we have had the wait-and-see mentality. But now after slowly embracing the Net, the advent of innovative offshoots such as the intranet are more readily embraced by the business community. The Intranet is similar to the Internet in that it uses its' technologies. It can be defined as a "controlled and internalised" communications environment where a company can now streamline the flow of information from every department and make it readily available to the appropriate personnel. Internal distribution and printing costs are minimised, and employees can access the latest and most accurate company information.

Toyota and more...

Our cover story: Toyota's website and the man behind Toyota Australia's marketing machine. Being the first automotive company in Australia on the Net, this site is enjoying a high saturation of hits, thanks to a very comprehensive and thought-out homepage.

We've introduced Globetrotting New Zealand style for our newly acquired New Zealander readership, with increasing content from that region on its way.

Beginners Guide

After much contemplation, and appreciating the alienation many newcomers to the Internet are experiencing, we have introduced a Beginners Guide. For our converted and experienced Net readers: Don't complain you have another 100 pages to read!

Happy reading and safe surfing

WIN

2 return tickets to New Zealand!

0055 26617

maximum charge: 50c (P.A.)

proudly sponsored by:

student uni travel
www.ozemail.com.au/~gotravel

air new zealand

woodslane press
ausnet services
internet australasia

Ring 0055-26617 for your chance to WIN

2 return tickets to New Zealand and many more prizes

The winner receives:

- 2 Free Return Tickets to New Zealand (courtesy of Air New Zealand)
- Free Internet Connection (courtesy of Ausnet Services)
- Free Subscription to *Internet Australasia*
- Free copy of "Internet for Dummies" (courtesy of Woodslane Publishing)
- "The Internet" The Australian Video Guide (courtesy of Hullabaloo Interactive)

Check out our web site for more details. **http://www.interaus.net/promo**

student UNI TRAVEL

air new zealand

AUSNet Services Pty Ltd

Permit pending. Promotion ends 31/05/96. Winner to be announced in April issue of *Internet Australasia.*

Letters to ed@interaus.net

Hello Mr Ed (sorry for the pun :-),

I've been an avid reader of your magazine since it first hit the newsstands. I've collected every issue published and found them to be of great interest to me, but I have one suggestion that would top off my collection. Has anyone thought to release an "Internet Australasia" Binder? I've been looking forward to a mention of it in the magazine, but none have been forthcoming. It would be nice to bind a volume at a time, so as to keep track, and protect all issues. Anyway it was just a suggestion. But could you please think it over, and get back to us readers. Thanks.

See Ya,

Chuck.....

charlieb@ozemail.com.au

I'll think about it...

Hello,

I have just read your feb edition and found it great. I thought you may be intersted in the work we have been doing in developing a site proving information to low income and disadvantaged people.

http://www.infoxchange.net.au

Best wishes and keep up the good work

Andrew

Dear Ed,

As a newcomer to the Internet I would like to see more editorial catering to the needs of beginners. I think the content is quite diverse, but I would like to see the beginnings...

Thanks

jill@world.net

I thoroughly agree. Infact if you go to page 97 we have just introduced a (regular) beginners section.

Hi Guys

Thanks for a great mag. I thought your story on "Your Business On-line" was really insightful. I've been wondering how hard it is to set up an ISP. There seems to be new ISP's popping up daily and dissapearing just as quickly. The bargain basement of ISP's are down to around $25 per month/unlimited downloads while the top shelf ISP's are still as high as $8 per hour. What software/ hardware is needed for an ISP & what does it cost to run. If it's not worthwhile for a single user to consider then maybe if a few users pooled together they could cut their costs even further and get the gold service the high priced ISP's go on about when justifying their mega charges. After all, hooking up a modem to a phone line isn't exactly brain surgery.

Regards

Tristan

camera@accsoft.com.au

Pooling together to cut costs? Unrealistic. With deregulation around the corner, we will see competitive rates. These rates will be offered by the ISP'S that can afford to do so and in effect squeeze out the smaller operators who cannot deliver a fast and cost effective service. Hang in there.

Send your letters to **<ed@interaus.net>**.
All comments and suggestions provide us with valuable information about who you are and what you hope to see in future issues.

INTERNET Australasia

...a growing readership
...a growing success story...

"We here at BlueSky have found your advertising medium to be of great use as we are making significant developments in our company and will soon be expanding to Sydney and Melbourne. We value the wide scope of advertising your magazine can provide. We have found your magazine to be a high value and your staff most willing to resolve problems."

Matt Carter
Systems Administration
BlueSky OPC Pty Ltd (Internet Service Provider)

"Many people think that just putting a site on the Net is enough, and that thousands of surfers will flock to their new URL address. This is not true. Without promotion in outstanding publications such as Internet Australasia, the site will die. One's vanity says it won't, but the reality is, it will."

Keith Ashton
Tourist Radio Internet

Title	Average Net paid sale per Issue*
Internet Australasia	**14261**
Your Computer	14 023
Australian Macworld	12 328
Computer World Australia	9 643
PC Week	8 696
Computer Week	8 153
Australian Communications	6 010
Internet.au	n/a

"Internet Australasia is the only periodical on the Internet which the AUSTEL library subscribes to. One copy is widely circulated within AUSTEL and consequently takes some time for staff to read. Access to your web site gives AUSTEL staff an alternative...As the Information Services Manager in charge of the AUSTEL library, I am aware of staff information requirements and provide links to Web sites accordingly."

Allyson Anthonisz
AUSTEL (Australian Telecommunications Authority)

***Source**: ABC-Audit Bureau of Circulation. **Audit Period**: July 1 - December 31, 1995

>>>>> NET NEWS

INTERNET AUSTRALASIA WELCOMES ANNOUNCEMENTS AND PRESS RELEASES FROM COMPANIES AND GROUPS CONNECTED WITH THE INTERNET. CONTACT THE MAGAZINE VIA EMAIL: PRESS@INTERAUS.NET OR PHONE: (02) 235 1550.

Multimedia Industry Boosted

New South Wales-based multimedia consortium Access Australia have unveiled plans which will boost the development of Australia's thriving multimedia industry. The projects will be coordinated from Access Australia's multimedia centre at the Australian Technology Park in Sydney. One will involve the development of a world-class national testing laboratory and a 'useability' laboratory to ensure that newly created multimedia products are both 'computer and people friendly'. These laboratories are believed to be the first of their kind in the country, and will reduce the need for developers to send their products to the USA for testing at fees of between $10,000 and $15,000. Another project will encourage the use of interactive multimedia in NSW schools, TAFEs and universities. The centre will also provide a consultancy to industry, government and the community to advise them on the use of multimedia and how it can improve industry productivity and profitability. There will also be a series of forums introducing the public to the Internet and the World Wide Web. 'The Cooperative Multmedia Centre program provides a vital initial impetus by harnessing the skills and investment already made in this new industry', said John Reynolds, Chairman of Access Australia. 'What we are doing is every bit as significant as the pioneering work undertaken earlier this century to create the Australian film industry. The portfolio of projects we have committed to developing will provide critical support, where needed, in a range of strategic sectors.' Mr Reynolds explained that each of the announced projects was cost-effective and deliverable in a reasonable time frame.

John Reynolds

Access Australia

Chairman

Access Australia is one of six Co-operative Multimedia Centres announced by the federal government in its cultural policy statement, Creative Nation. Begun with seed funding from the federal government and with the majority of funding provided by the consortium participants, the centres aim to be self-funding in three years. Access Australia has also received significant funding and support from the state government. A feature of Access Australia's operations will be a major collaboration between NSW universities, the education sector, cultural organisations and the multimedia industry.

EMI's Online Move

EMI Music Australia have made their first entry into interactive marketing with the launch of the Vital Brits campaign. Featuring British bands Blur, Radiohead, Supergrass, Babylon Zoo and Skunk Anansie, the campaign utilises TV, radio and print along with an Internet site and in-store computers at selected retail outlets nationwide for consumers to sample the various tracks and video clips from the albums. The URL is http://vitalsite.nethead.com.au. Believed to be the first for a major record company in Australia, the site offers Real Audio music samples and QuickTime video. The site also carries biographies of the artists and retail locations.

MCA Goes Online

Sydney's Museum of Contemporary Art (MCA) has gone online with its own Web site at http://www.mca.com.au. The Museum provides information on its current and upcoming exhibitions as well as membership details. Possibly the most interesting feature of the site is a QuickTime VR rendition of 'Puppy', a 12-metre high sculpture of a terrier composed entirely of flowers. Users can scroll around a 360 degree view of Puppy, the MCA, Circular Quay and Sydney Harbour.

Internet Users Fight China

The growing tensions between the People's Republic of China and Taiwan have sparked a wave of protests on the Internet, mirroring the actions taken against the Communications Decency Act in the USA months earlier. Operators of Web sites are encouraged to add links to a protest page established at **http://www.taiwanese.com/protest/join.html** and duplicate the 'Democracy Peace Taiwan' logo on their own pages. Much of the online activity taking place around the world is being coordinated by Taiwanese

expatriates at universities in the USA and Europe, with student bodies backing the development of protest sites. Activism within the PRC itself has so far been non-existent, an understandable result of the intense monitoring that the PRC government has imposed on the use of the Internet within its own borders. For a full list of protest sites and online activism against the PRC, visit the Peace and Democracy for Taiwan page at **http://jgcstar1.mech.nwu.edu:8000/~julie/protest/protest.html**.

Mark at Magna

Mark Cramer-Roberts has been appointed to a new role within Sydney-based ISP Magnadata. Cramer-Roberts will become National Channels Manager for his company, which has now become the third largest ISP in Australia. 'Magnadata is growing at such a rate that there is now sufficient business to support a reseller channel', said Cramer-Roberts. Cramer-Roberts has been with Magnadata since its inception in 1993. The company was one of Australia's first legal commercial access providers and is a founding member of the Internet Industry Association of Australia.

Mark Cramer-Roberts
Magnadata
National Channels Manager

AusWeb 96

Building on the success of the very popular AusWeb 95 conference held in Sydney last year, AusWeb 96 will be held at Conrad Jupiters on the Gold Coast in Queensland from July 7 to 9 this year. The conference is being built around four major theme areas: business opportunities, education and learning, technical futures and cultural and community issues. Keynote speakers include Bill Arms from the Corporation for National Research Initiatives in Washington D.C., Nick Arnett from the Verity Corporation in California, Evan Arthur from Australia's Department of Employment, Education and Training and Jim Miller from the W3 Consortium at the Massachusetts Institute of Technology. Hands-on workshops will cover topics such as Searching the Net, Advanced Netscape browsing with Netscape 2.0, Web Page Publishing in HTML,

Get-Netted

WITH INTERNET JEWELLERY

An Internet Connection Service for Jewellers

BUSINESS 32bit &16bit

INCLUDES:

· ***one off connection fee***
· ***e-mail address***
· ***one mth connection***

(40hrs, unlimited download)

Enjoy The New World

For more information on getting connected phone: (02) **554 9723**
email: **sales@jewellery.com**

Part of the INTERNET JEWELLERY NETWORK

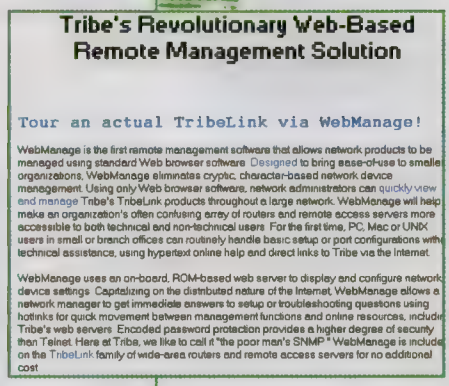
http://www.jewellery.com

>>>>> NET NEWS

CGI programming in Perl and Java programming. AusWeb 96 will also feature a 'virtual exhibition' which will be available online after the conference. For further information, visit the AusWeb 96 home page at **http://www.scu.edu.au/ausweb96**.

Tribe on the Web

Tribe Computer Works has introduced a solution to the problem of implementing management software for a complex router and remote access server. Through firmware called WebManage, the system is implemented by ROM-installed World Wide Web home page, which a network administrator can access from any remote computer by simply using the Netscape Web browser. WebManage includes inbuilt hyperlinks to online help or Tribe's own Web site for technical support. Tim Mansour, Product Marketing Manager for 1World Systems, distributors of WebManage in Australia, said that WebManage helped users to avoid the frustrations of dealing with a text-laden interface when configuring SNMP management products. For security, WebManage requires a username and password, which are both encrypted using Netscape's Secure Socket Layer protocol. Interested network administrators can test drive WebManage at **http://www.tribe.com/products/webmanage/ index.html**.



Internet Document Management

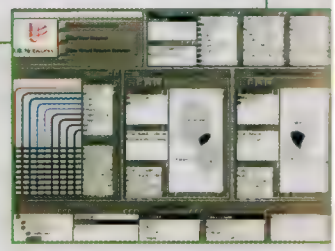
US Based PC DOCS Inc. and Australia/New Zealand distributor EDUCOM Business solutions have announced a new strategy to ensure business to business document exchange and management over the Internet. The new product lines, based around the DOCS Open document management system, will cover a wide range of advanced document management functions. Customers will be able to seamlessly integrate the formerly disparate worlds of enterprise document management and publishing on the Internet. The first product in the range, Mercury, is designed for widespread access, searching and publishing of documents such as forms or datasheets on the Internet and corporate Intranets. This will provide access to DOCS Open using Netscape Navigator or Microsoft Explorer. Users will also be able to publish documents on the Net in a DOCS Open Library using both HTML and Adobe Acrobat. Venus will allow organisations using DOCS Open to use the Internet as a WAN for sharing information. Jupiter will feature the development of a Java client and Java applets. This will extend the reach of DOCS Open's full document organisation to users of a wide variety of current and future computing platforms and devices. Visit Educom at **http://www.educom.com.au/**

Colonial Boosts Security

Financial services organisation The Colonial Group has boosted its Internet security with a Softway firewall as part of a program to use the Internet as an alternative channel for financial services. 'Our credibility depends on solid network security', said technical project manager Iain Waters. 'A single security breach can ruin a financial institution's reputation overnight.' The Group now uses Gauntlet firewall software running under BSD Unix. 25 pilot users currently have access to the new Internet connection via the firewall, and more than 2,000 users are expected to have access by the end of the year.

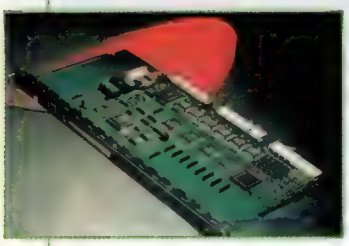
UB's Second Phase

UB Networks has moved into the second phase of its virtual LAN strategy, VNA2 (Virtual Networking Architecture 2). The architecture provides flexibility to network managers who can now use virtual local area networks (VLANs). VNA2 extends VLANs across multiple hubs using a standards-bases protocol that is interoperable with other vendors' VLAN 802.10 implementations. VNA 2 is currently implemented on the 5631 FDDI and Dragonswitch, and supports a total of 65,000 VLANs. For further information visit UB Networks at http://www.ub.com.



PMEC for Port Switching

UB Networks have also introduced the Port Mobile Ethernet Concentrator (PMEC) 24-port module that supports port switching for the GeoLAN/500 NonStop Super Switching Hub. The PMEC module provides the capability to assign ports individually to any of 12 MultiLAN Ethernet segments via software, significantly reducing the cost of changes.



'The PMEC module provides bandwidth management and optimisation from the network management station, eliminating visits to the wiring closet', said Alan Gray, Vice President of UB Networks Asia Pacific. 'Network managers can implement configuration changes in real-time.' Individual Ethernet ports can be assigned to one of 12 segments electronically via software control, rather than by reconfiguring cable connections to balance for changes in network traffic. The GeoLAN/500 supports up to 11 PMEC modules providing as many as 264 Ethernet ports. Visit UB on the Web at **http://www.ub.com**.

Surf Yahoo Safely

SurfWatch Software has teamed up with Yahoo! and its new Yahooligans! Web guide for kids, providing a safe starting place for children to explore the Internet. SurfWatch, which has gained industry praise as an easy-to-use and robust software program, will be available as a low-cost download in the 'Stay Street Smart' section of the Yahooligans! Web site. 'Exploring the Internet should be a fun and safe experience for kids, and we believe that bringing together Yahooligans! and SurfWatch will enable that to happen,' said Jeff Mallett, vice president of Business Operations at Yahoo! Inc. 'Yahooligans! is a kid-friendly starting point for children to access the Internet, and SurfWatch has proven to be a marvellous way to protect them from exposure to sexually explicit material.'

SurfWatch lets parents, teachers and employers block unwanted sexually explicit material from their computers' Internet access-without

The Internet is gradually moving away from "web page" advertising to providing real content and functionality that benefits customers. Web Watch visits interesting Australian sites and reviews them for the value of their content to save you time and money.

Rating: ★ Poor ★★ Average ★★★ Good ★★★★ Excellent ★★★★★★ Superior

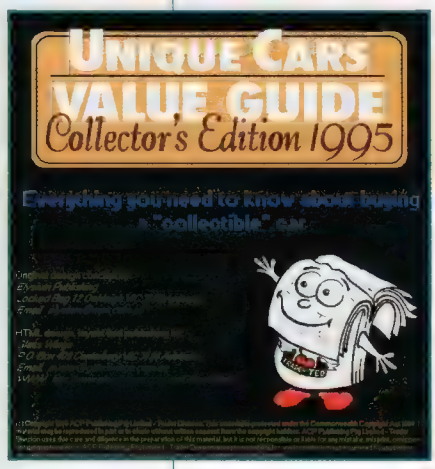
General Interest

Trader Magazine Group

★★★

http://www.polyester.com.au/trader

Those of you familiar with this company's range of trader titles such as 'Trade a Boat' 'Deals on Wheels', 'Motorcycle Trader' or 'Unique Cars' will relish this service that allows you to quickly find and order a trader magazine suited to your needs at any time. If you like most of us have an occasional need to trade (buy or sell) any of a broad range of goods, be it farming equipment, auto parts or even selling your own house without a real estate agent then this is a good site to bookmark for future use.



Australian Consumers' Association

★★★

http://www.sofcom.com.au/ACA/index.html

The publishers of choice magazine do not offer an on-line version of the magazine and as a strict policy carries no advertising on-line. Although this service is solely funded by subscriptions to it's magazines, some random sample issues on-line may benefit browsers of this site. What the ACA do offer is a wealth of supplementary information covering such things as an updated listing of product bans and recalls, with a built in search facility, through to a comprehensive index on past product tests undertaken plus the highlighting of updates as they occur. The site also contains a Choice Books section, Press Release and Speech area. Subscription to the hard copy Choice or Consuming Interest Magazines can be effected via their on-line order form. Reviewing the indexes of both, a 5 year history in the case of Consuming Interest magazine, will give an insight as to which product may best suit your needs.

restricting the access rights of other Internet users. The SurfWatch software removes no material from the Internet or any server, but simply blocks it at any computer or local network where it is installed. SurfWatch screens Internet newsgroups, World Wide Web, FTP, Gopher, Chat and other services.

The Yahooligans! directory of the World Wide Web at **http://www.yahooligans.com** is a kid-friendly version of the proven Yahoo! directory, with bright graphics and lively text. One selection on the Yahooligans! home page is 'Stay Street Smart' which provides on-line safety tips and the opportunity for parents to download SurfWatch. 'The rapid growth in the number of children accessing the Web has increased their familiarity with technology as well as the danger that they will accidentally or intentionally see information that their parents may not approve,' says Ann Duvall, president of SurfWatch Software. 'Yahooligans! and SurfWatch are natural companions because they encourage exploring the positive aspects of the Net.'

ICE Block for Net Raiders

MPA Systems is distributing new Unix firewall security software to prevent unauthorised access to systems connected to the Internet. ICE Block disables inbound connection attempts using telnet, rlogin and ftp, as well as the whois and finger commands. Applications to be blocked can be individually determined for different computers. The software can also regulate outbound connections to the Internet from internal users. Contact MPA on (03) 9810 9444.

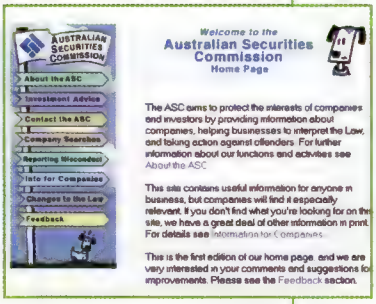
Electronic Commerce

Novell Inc. has licensed leading technology from Open Market Inc. to enable a new generation of electronic commerce solutions for Intranets and the Internet. Novell will integrate OM SecureLink technology with NetWare to provide customers with a high-performance, cost-effective solution for establishing and maintaining online storefronts, as well as managing electronic transactions. Customers can connect their Web server to OM-Transact, a transaction management system for secure Internet commerce. These back-office services can be hosted by either a third-party provider or internally on the corporate Intranet. 'The installed base of three million NetWare Servers and the power of NetWare Directory Services to secure and manage customer networks will make online storefronts and electronic transaction management an integral part of how people do business', said Novell CEO Robert Frankenberg.

TereDonn for Schools

Recently established Queensland ISP TereDonn Internet is offering Internet access to independent schools on permanent links at prices they claim are half or even less the rates of commercial connections. Coverage includes Brisbane and the Gold Coast. TereDonn plan to extend their coverage soon to include Rockhampton, Mackay, Townsville, Cairns, Towoomba, Caboolture, Nambour, Gympie, Maryborough, Bundaberg, Emerald and Longreach. Visit TereDonn's Web site at http://www.tdce.com.au or call (07) 3847 4966.

ASC Launches Home Page



The Australian Securities Commission (ASC) has launched its first home page on the Internet. The page is designed to provide small to medium businesses and private investors with information on a wide range of services offered by the ASC. The ASC believes that computer users who live outside Australia's major metropolitan areas will benefit from improved access to this data. The page has been launched in conjunction with the ASC Infoline (1300 630 600) as part of an overall plan to make the ASC more accessible. Online information includes tips on how to report company misconduct, information on starting, running and winding up companies, changes to the Corporations Law, contact details for ASC staff and links to sites on related areas such as consumer protection and overseas securities regulatory authorities. The home page is located at **http://www.asc. gov.au**.

Silicon Graphics Intranet

Silicon Graphics, Inc. (SGI) has announced WebFORCE Intranet, the industry's first integrated hardware and software solution for creating, serving and managing Web sites on internal corporate networks (Intranets). The WebFORCE Intranet line combines a complete set of Web content creation and management software from SGI with Netscape SuiteSpot, a full suite of next-generation server software. 'The Web is bringing the visual computing revolution to the enterprise as corporations in every industry apply powerful Web technology to streamline their operations', said David Webster, Marketing Director for SGI in Australia and New Zealand. The WebFORCE Intranet product line combines a set of pre-installed software with high-performance Silicon Graphics' WebFORCE workstations and servers. Combined, there technologies provide media-rich Web authoring, serving, site management and Java application development solutions. Intranet products include the WebFORCE Workgroup system based on the SGI Indy desktop system, and the WebFORCE Enterprise server based on the Silicon Graphics' Challenge dedicated server line. WebFORCE Workgroup systems and Enterprise servers are bundled with Silicon Graphics' Intranet Junction, designed to automatically generate customised Intranet sites.

Online Games and Access

Activision is offering five hours of free Internet access through NetComm's Enternet service with its latest CD ROM/online game, Spycraft: The Great Game. 'As one of the first games with true online capabilities, we are able to offer players a total entertainment solution', said John Watts, Activision's Asia Pacific Marketing Director. Spycraft players can take their investigations online to a dedicated Spycraft Web site to trade spy secrets, discuss the consequences of their decisions, investigate leads and gather news reports. Visit NetComm on the Web at **http://www/netcomm.com.au**.

Heininger Media Pty Ltd

★★★★

http://www.heininger.com.au

Have you a computer product that you wish to take to the market, well look no further than this site if you require the services of a specialist team of public relation consultants servicing the IT arena. Heininger Media run by husband and wife team have clocked up over 20 years of experience in the IT industry, specialising in everything from journalism, advertising sales through to looking after IT base product launches. Although not a site for the average surfer, this is the place to come if after all your hard work you wish to successfully launch an IT based product in the Australian / New Zealand market place. Over time more and more of the traditional service industries will gravitate to promoting their services on-line in order to serve you, the client better.

CellarMaster Wines

★★★★

http://e-wine.com.au

Although knowing of this site's existence, it did take a while to locate the site without the address details at hand. Cellarmasters have a long history with direct marketing and now bring you the means of ordering our wonderful Australian wines on-line. The site is broken into two main segments covering red and white wines, a mixed wine section also exists together with a hot specials section. Ordering can be quickly undertaken via the well designed on-line order form which calculates everything from delivery charges through to insurance costs. You can use the toll free fax or telephone numbers to place your order or via email which once received by Cellarmasters will generate a personal call to you in order to obtain credit card details. Another nice feature is a brief background on where each wine originates and if you are one of those people who are reticent about e-mail order purchases, Cellarmasters unconditional money back guarantee should deliver piece of mind.

>>>>> NET NEWS

Call For Papers

A call for papers has been issued for AUUG96 and the Asia-Pacific World Wide Web 2nd Joint Conference. The joint events will be held from September 18 to 20 at the World Congress Centre in Melbourne. The program committee invites proposals for papers and tutorials relating to: Technical aspects of Unix and Open Systems, Networking, Internet and the World Wide Web and Business Experience and Case Studies

Presentations may be formatted as tutorials, technical papers, or management studies. Technical papers are designed for those who need in-depth knowledge, whereas management studies present case studies of real-life experiences in the conference's fields of interest. All presentations must be accompanied by a written paper for the conference proceedings.

Abstracts and proposals are due by May 15, 1996. Authors will be notified of their status by June 5. Proposals should be sent to AUUG Inc., PO Box 366, Kensington NSW Australia 2003, or by email to **auug96@auug.org.au**.

HTML Transit

Documenta have announced a new technology for high-volume Web publishing. HTML Transit employs a new template-based architecture to automatically generate HTML publications using source files from any major word processor. The product allows a publisher to specify, in advance, exactly how the HTML publication will appear and behave online. HTML Transit allows a publisher to use one set of source files for both hard copy and online documents, speeding up the publishing process. Call Documenta on (02) 281 2844.

Copyright-Free Images!

An inexpensive copyright-free image library on CD ROM has been released by a Gold Coast firm. Mike Redding, partner of Murray White & Associates said that desktop publishers and Web site developers can now buy the unlimited use of a collection of over 100 drum-scanned, high-resolution digital images priced at less than two dollars per image. The library, dubbed Viewfinder, holds a distinctly Australian flavour of Queensland people and scenery stretching from Fraser Island to the Tweed River including aerial views. 'Until now, publishers have used flatbed-scanned, low-resolution images on CD ROM catalogues for positionals, but have been compelled to hire the original colour transparencies if they are not prepared to compromise print quality', said Mike Redding, partner of Murray White & Associates. He adds that photographic libraries and photographers who market CD ROM image catalogues charge an initial copyright fee for the publication of an image, but add-on costs apply for any subsequent use of the same image in other media in the marketing mix. 'These charges and the risk of copyright infringement for a single photographic image can be so daunting that many graphic artists and advertising agencies urge their clients to pay for their own photographic shoots. Here, the industry can own their own library.' The images offer a superior level of quality and colour distribution than other CD ROM-based images. According to Redding, 2.5 Gigabytes of data was resolved from 104 Viewfinder scans. The JPEG compression system was then employed at its best-quality option to store 380 Mb of final JPEG data plus 217 Mb of TIFF image files on the CD. RGB channels were not reduced to four-process colour CMYK channels, as the loss of the brighter, non-printable colours currently used in multimedia and Web production would limit the end-

L: Murray Waite
R: Mike Redding

Murray Waite & Associates

McAfee Agency

McAfee has appointed The Paradigm Agency as its new Master Agent in Australia. All existing licence agreements remain in force, and will be honoured in gull. McAfee is a leading international supplier of enterprise-wide network security and management software. Contact The Paradigm Agency on (02) 9958 6599 for further information on licensing arrangements.

use of the images. After determining the exact printed size of the image, Viewfinder's users are only one step away from colour separation with applications such as Adobe Photoshop or other preferred separation techniques. Each image has a corresponding low-resolution CMYK TIFF file in two resolution variations, which allows users quick positional placement without the need for increased disk space or RAM. Redding's minimum hardware recommendations for using Viewfinder include a 68030 Macintosh or 386 PC with CD ROM drive configured to read ISO 9660 format disks, with 20 Mb of free hard-disk space for use of the low-resolution TIFF files. End-users who wish to manipulate the JPEG files to CMYK at maximum resolution will need 100 Mb of free hard disk space, a 68040 Macintosh or 486 PC, with a recommended 16 Mb of RAM. For further information call (07) 5528 0200.

Computer Store on Web

The Worldcorp Direct Distribution Network had been launched onto the Web by Peter Klanberck, Managing Director of Software Etc, Australia. Klanberck has been developing the site since October 1995, building up a list of some 6,000 products that are now available at **http://www.worldcorp.com.au**. 'The Web is changing the way computer owners do business', said Klanberck. 'We will even help customers find the products they want if they're not already listed, and help dealers to find the appropriate distributors.' Worldcorp is designed so that all vendors can list their products for no upfront costs, ensuring that there is a wide variety of information available to users. The site has been developed using a balance of photos and screen shots that illustrate the products, but little in the way of fancy graphics that serve no useful purpose. Free trial and demo copies of software where they are available. In the near future, it will be possible to download full brochures from the site and eventually download software purchases. The Worldcorp site also includes a Computer Exchange to give buyers and sellers of second-hand computer products an arena in which to do business at no extra charge. Product reviews and comments by users are encouraged in the online forum.

Garden Earth

★★★★

http://www.interworld.com.au

This gardening site offers a wide range of services to those afflicted with the green thumb. Being an Australian site it's monthly calender of things to do in your garden is very useful. For those who subscribe to the gold membership plan an email based 24 hour Garden Earth Doctor help line facility exists. Other features include gardening book reviews, garden design help for members and a listing of gardening tours around the world. Membership can effected on-line and for those wary of transmitting credit card details, a fax or mail facility exists also.

Neville Jeffress Advertising

★★★

http://www.nj.com.au

This Australian Employment site allows job seekers to browse opportunities that exist around Australia. Searches can be carried out via the industry categories listed, or by using the advanced search engine to locate a specific job. To ensure that your choice of locality is covered in the employment database search a comprehensive check list exists covering National, metropolitan and regional newspapers. Useful links to both the Sydney Morning Herald and The Age newspaper exist and from all appearances this will flow onto to include other publications in time. Overall it's not overdone with graphics, making for smooth navigation.

Telstra Internet Services

★★★★★

http://www.telstra.com.au/

Unknown to many people Telstra's homepage is a wealth of information. In addition to being able to search the latest White and Yellow pages. You can peruse the latest performance statistics of Australia's Internet backbone, it's current configuration or register a Domain Name. You can also send a fax, through the email to fax gateway.

>>>>> NET NEWS

Maestro NFS Client

Hummingbird Communications have released Maestro NFS, a high-performance NFS Solution for Windows 95. The Maestro NFS Client allows Windows 95 users to transparently access file and print resources of other network-attached machines including Unix, Macintosh or VMS-based systems. The product can also be run from the Windows 95 command line. Maestro NFS supports NFS Versions 2.0 and 3.0 for improved performance and is based around a 32-bit multi-threaded NFS file system that supports up to 8 threads, each able to transfer data simultaneously and independently. The Maestro NFS Client supports transfer rates of over 1,000 Kbps on standard 10 Mbps Ethernet systems. Contact local distributors Digital Networks Australia on (02) 437 5177.

Oracle Revenues Up

Database and networking giant Oracle Corporation has announced record profits for the third quarter of the fiscal year ending February 29, 1996. Total revenues increased by 41% to US$1,020 million, up from US$722 million in the same period last year. Net income increased from US$105 million in the 1995 equivalent to US$146 million for the announced quarter. Oracle's third quarter licence sales of servers, tools and applications grew by 37% from last year. Oracle Applications led product revenue growth with licences increasing by 103%. Revenues in Oracle Asia Pacific grew by 54%. Oracle is on the Web at http://www.oracle.com.

Policy Group for RMIT

The Vice Chancellor of the Royal Melbourne Institute of Technology, Professor David Beanland, has opened a new Media and Telecommunications Policy Group, directed by Professor Mark Armstrong. Professor Beanland said that Professor Armstrong's policy group would enhance RMIT University's international leadership role in multimedia research and development. The RMIT Media and Telecommunications Policy Group will provide independent public policy research in audiovisual services including multimedia, online services, pay television, narrowcasting and interactive media, telecommunications networks and services, radio and television broadcasting, freedom of communications and privacy, media and communications content, including legal and ethical principles and media ownership. The group will be industry funded with support from Telstra, Optus and Apple among others. Professor Armstrong said that the focus of the group's research would be on issues three to five years ahead. 'Our research program will find realistic legislative and policy options in co-operation with people and organisations involved in communications', he said. 'We will act as a clearinghouse for ideas and initiatives. We will do this in an objective and independent way. We will not be playing an advocacy, consultancy or lobbying role.' Professor Armstrong stressed that the community needed clear explanations of how Australia was marshalling its resources and skills in the field of communications, adding that government and industry have moved far ahead of community understanding of the changes that are occurring. He also stated that the results of his research are unlikely to please everyone, but independence was vital to the integrity of the Group's research.

AZWare FLASH

Software Suppliers gas announced AZWare FLASH, a software product that allows Web page builders to produce graphics that are smaller and faster to display than typical bit-mapped images. The software is a full vector drawing and charting product that produced images that are up to one twentieth the size of a typical GIF file, which produces a considerable speed advantage at the display end. Because the images are line drawings, they display with the same level of detail at any size. AZWare FLASH uses a compressed program file called XMZ to achieve its compression results. To ensure copyright protection, FLASH XMZ files cannot be 'undone', and include an option to describe or denote copyright of the material. For further information, call Software Suppliers on (02) 888 1955.

3D Graphics for the Net

Apple Computer, Netscape Communications Corporation and Silicon Graphics, Inc., have announced Apple's support of the Moving Worlds VRML 2.0 proposal and Apple's contribution of new technology to the Moving Worlds initiative. Specifically, the three companies plan to develop a new binary file format for Moving Worlds based on Apple's 3D metafile format (3DMF) technology. Moving Worlds is an open, cross-platform specification for dynamic 3D environments on the Internet. The Moving Worlds architecture allows 3D data sets to be scaleable for viewing on a variety of computer systems ranging from Internet-based PCs to powerful 3D graphics workstations. The development of Moving Worlds has been an open and collaborative process led by Silicon Graphics and endorsed by over 50 companies. The proposal has recently been submitted to the VRML Architecture group. The QuickDraw 3D metafile format (3DMF) is a cross-platform file format which supports Macintosh, Unix and PC systems. 3DMF technology will be used as an object-oriented, binary 'wrapper' in the Moving Worlds VRML proposal. 3DMF technology will bring increased performance through faster parsing and faster downloads via smaller file sizes, as well as making it possible to stream Moving Worlds content. For more information on 3DMF and its integration into Moving Worlds, visit Apple on the Web at **http://www.info.apple.com/qd3d/**.

Web Link

Sydney-based Internet publishers web link has created an Australian first by delivering Australian Stock Exchange information online to the Internet community. 'Traditionally, the Net has been focussed on academia, research, and lately on entertainment', said Brendan Landsdowne, founder of the company. 'We're now entering the second phase of its development, which highlights real business use of the Internet.' Speaking at a media conference in Sydney, Landsdowne elaborated on the three phases of the development of the online presence of a company. Firstly, the Web had been inundated by Yellow Pages-style advertising of name and details. 'That quickly wore rather thin. People began to see that it wasn't so effective.'

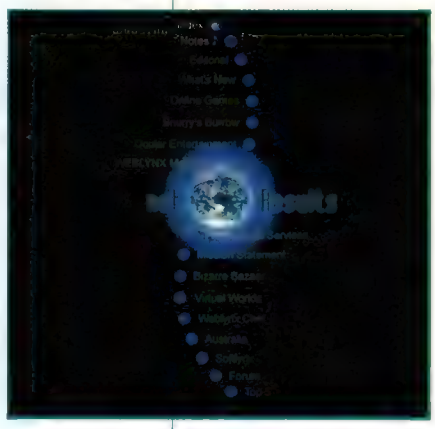
Software & Support

WebLynx

★★★

http://weblynx.com.au/

WebLynx has an impressive front page. This theme is kept consistent throughout the site, and with great effect. The aptly titled Bizarre Bazaar, with such unusal gems as the 'Goat Shrine', will be of interest to enthusiastic pet owners. Unfortunately, some of the attractions on offer, such as Market Place and Internet Games; are not yet available.



Trumpet

★★

http://www.trumpet.com.au/

The home of the ubiquitous Trumpet Winsock for Windows, it is the central distribution point for Trumpet software. A somewhat mundane site, it is oriented towards supporting registered Trumpet software users. Still, a must have address, if you use Trumpet Winsock or would like to download some home grown Internet software.

Newmedia

★★★★

http://www.newmedia.com.au/

The site for a design company based in Sydney, Newmedia has a visually stunning site. The graphics are very good; and they provide impressive examples of their work. In addition to their 'catalogue', they provide technical tips on how to produce visually stunning graphics, for many types of business presentations.

Com Tech Communications

★★★

http://www.comtech.com.au/

Com Tech Communications are official distributors of Netscape products in Australia, and their site reflects this role. Their pages are searchable, and while the engine returns some interesting information like the size of the page found; the title is not shown, making it somewhat unfriendly.

The second phase involved direct access to detailed information of a form that's not available anywhere else. This was typically information-rich content such as election sites that contained detailed policy information or Web Link's own service. Lansdowne believes that the business community will need to wait until the end of 1996 or later before the online world enters the third phase, which involves gaining revenue from an online presence. Companies are now looking at how they can provide a service to the marketplace that provides a return on the investment.

Brendon Landsdowne

Web Link founder

'Consumers are beginning to change their perceptions about the Internet', observed Landsdowne, noting that last year, companies in Australia spent an average of around $10 on the Internet. Most were concerned about the risk factor, and doubted if there was any content that directly related to them. 'In the next six months, this figure is expected to increase to $100 on average. 60,000 businesses are already on the web, and this is growing worldwide at 35% per month.'

'We believe the Internet is focussed around communities of interest, who are looking for safe havens in the Internet wilderness. It needs to be brought down to a manageable size.' Hence, Web Link had constructed their site in the form of the 'Web Link Village'. Landsdowne predicts a trend towards 'gated communities' online that require identification and a password. 'There are numerous information services that are aimed at a select group of people. Identification allows a vendor who is distributing products to know who his clients are.' Web Link cite a contractual requirement that users must register in order to gain access to ASX information. 'Rather than an email approach, this is a genuine online registration system linked to a database, so we can monitor activity for billing.' The service is aimed at the general community as opposed to stockbrokers. Web Link provides hourly updates of

EDX WEB

Australian electronic document exchange and messaging network provider, Electronic Document Exchange Pty Ltd (EDX) has launched their own Web site at http://www.edx.com.au in preparation for the launch of EDX Web services later this year. The site provides an introduction to the world of electronic messaging and commerce.

data from the ASX. Other sections are updated on a daily or weekly basis. Historically based information will give records for five years. Web Link is currently talking to various stockbrokers who are interested in offering the online purchase of shares.

Overcoming the stigma of online commercial transactions, Landsdowne explained that 'once you are registered as a user, your credit card information is not needed anymore. Any vendors within the village can sell merchandise through a common billing system that is presented to the user at the end of the month.'

When questioned about the fact that the ASX themselves are already delivering their own data online, Landsdowne defended his service as a value-added product. 'My understanding is that they're delivering unflavoured milk. They're relying on other groups to provide analytical services. The difference between what we're delivering and what the ASX has is also timing. The ASX will only supply end-of-day information rather than real-time hourly snapshots. If they compete with us as retailers, they risk losing our own clientele.' Visit WebLink at **http://www. weblink.com.au**.

Online Currencies

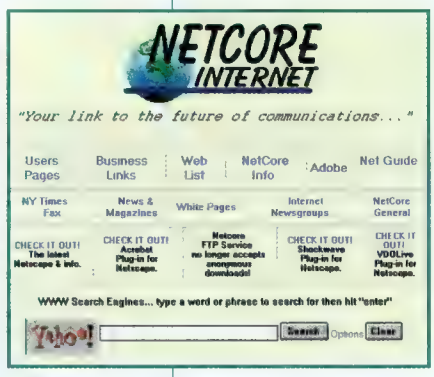
The Internet is set to become a worldwide shopping mall with the advent of online currencies, according to Professor Graham Wrightson and Honours student Andreas Furche of the University of Newcastle. 'The widespread use of such a currency could have a greater impact on our financial system than the introduction of EFTPOS and automatic teller machines.' Wrightson claimed that current Internet transactions amounted to an average of just $5 for each Net user per annum, a result of problems inherent in current online transaction systems. The researchers propose that purely electronic cash, which would be as anonymous as paper money, offers a solution that would cause online transactions to explode. Wrightson has also acknowledged that electronic cash raises issues of concern, such as the potential for tax evasion or money laundering. For an earlier report on electronic cash, visit Issue 3 of Internet Australasia on our Web site.

Netcore

★★★

http://netcore.com.au/

Netcore a Melbourne ISP provides are useful if somewhat garish page. They provide the ability to search both Lycos and Yahoo from their page, and the WebSite catalogue of links, provides some useful sites, especially for newbies. While the overall appearance of the site (including colour combinations), leaves something to be desired; it has some useful features for local users.



Proudly sponsored by WebLink Internet Publishers http://www.weblink.com.au

High quality Net services

We provide a complete set of Internet-related services for individuals and businesses. Our motto is "Service with Quality" and that's what we provide. Our services include:

Individual SLIP/PPP account

$1.50/hr ($1.25/hr for shell), min. $15/month. Setup (once-only) $20. No volume charges. Initial payment of $100 for $100 credit. High quality, friendly service. DOS/WIN software included.

New! Kralizec Business account

Get your business onto the Net inexpensively. Send and receive E-mail using your own domain name, plus time to surf the Web (up to 5 users). $600 p.a., no setup fee.

Virtual World-Wide Web hosting service

This is a full World-Wide Web hosting service including Virtual Web - your own domain name, CGI scripts, clickable images and access control.

Permanent Net links

We provide high throughput connections to the Net at very reasonable prices. Choose between 28.8k modem and 64k ISDN, fixed price or charged by volume.

Want more info?

See our Web: **http://www.kralizec.net.au/**
E-mail to **info@zeta.org.au** (autoresponder)
Call us on **(02) 837-1397**, Fax **(02) 837-3753**

Kralizec Dialup Internet System

MR

TOYOTA *in* CYBERSPACE

'The objective of creating the site was to start the process of moving us into the twenty-first century', he explains.

BOB MILLER MUST FEEL LIKE ALADDIN AFTER HE RUBBED THE LAMP. The General Manager for Marketing for Toyota in Australia was crafting a solid but fairly straightforward Web site for his company when the success of his creation took the online industry by surprise.

Toyota's Web site at the predictable URL of **http://www.toyota.com.au** has become the most successful corporate Web site in the country, drawing thousands of visitors from Australia and overseas. According to the company more than one million hits were recorded in the site's first 90 days, and it has managed to preserve its popularity ever since. Miller also took his place as the force behind the first Australian Web site from a locally based motor company. The Web may be the most modern promotional medium that a company can use, but Miller drew on years of experience with previous media to help forge his latest success. Graduating from Melbourne University with a BA degree in Indonesian languages and economics, Miller joined the Ford Motor company for seven years. After spending two years in retailing, Miller joined Melbourne-based advertising agency USP Needham, where he worked with Ford and GE Electronics. Seven years later, Miller joined Toyota in 1982, at roughly the same time that Toyota introduced the highly successful 'Oh What a Feeling' advertising theme. By 1993, Miller had been awarded the title of 'best marketing director' by BRW magazine. He is also currently the chairman of the Advertising Industry Council of Australia. Miller's experience with marketing stretches across every mass communications medium, and his promotions have associated Toyota with events from grand opera to rock and roll wrestling.

With so many companies groping for direction in adapting the Web to their needs, the success of Toyota's site is like a beacon in an arena where hard experience is still relatively small. *Internet Australasia* investigated the development of the site to find out how Miller and his team have managed to go beyond their competitors.

Miller's Web

Bob Miller's Sydney office is as conservative as that of any manager. The man and his surroundings hardly seem to be adventurous at a first glance, but Toyota's General Manager for Marketing calmly states that the plans he is drafting now extend with precision into events beyond the turn of the century.

'The objective of creating the site was to start the process of moving us into the twenty-first century', he explains. 'We're long-term thinkers here. Obviously, the marketing division of the Toyota Corporation also has to take a short-term view for the sales department, but we need to extend our focus to at least 2001, which will be the centenary of the Federation of Australia. We plan to be linked to that event.' Miller's focus also extends slightly further as a result of the products under development at Toyota. 'In the car business, you have to develop product plans eight years ahead. We're drawing plans for models that won't appear until after 2005. It's quite a futuristic business because of the capital involved, and the Internet is a part of that. Communications is very important.'

Miller's decision to aggressively develop an advanced Web site were partially motivated by Australia's rapid adoption of the technology, which he identifies as part of our enthusiasm for technology in general. 'I guess this is because we have the population of Holland and the geographic area of the USA. We're a strange country, being the only stand-alone continent. People here tend to take our isolation for granted. Because of this, communications has always been important, from the telegraph to air mail. My Grandmother was alive when Harry Houdini flew the first air mail, but by the time she died she was able to visit her relatives in Canada on a 747.' Miller identifies a desire to overcome loneliness as an important factor in the development of the electronic media, citing the fact that 40% of households in Australia are single-parent families. He expects the Internet to follow in a similar fashion, and views the generally low penetration of accounts among the community at the present as a natural step in its evolution. 'Television wasn't commonplace in 1956 either. I think one factor limiting the Internet at the moment is the keyboard interface. Once voice activation or something else that's easier arrives, it will take off.'

My Grandmother was alive when Harry Houdini flew the first air mail, but by the time she died she was able to visit her relatives in Canada on a 747.

Miller's commitment to the Internet was encouraged by Toyota's PR company, who introduced Miller to Web developers Spike Wireless. 'We're a bureaucracy here. We don't actually perform any final tasks ourselves. We have advertising agencies, PR companies and printers all around us who actually do things. Once we had a conversation with Spike Wireless, it was obvious that we had an opportunity here. I remember when the fax machine first appeared at the start of the seventies, and it was considered to be a major breakthrough. Today, people have them in their homes. The Internet seems to be headed along the same path. It will soon become a part of normal life.' The Marketing Manager freely admits to having no preconceptions about the Internet before the process began, which arguably gave his production team more freedom.

Commercial Web developers are rushing to implement online transaction systems for direct sales, but Miller remains sceptical about implementing direct marketing through his Web site. 'We'll move to recognise the possibilities, but we shouldn't rush too quickly. Don't forget that credit cards have been available for people to use in conventional advertising for many years now. I have a hobby in building model planes, and if I want to buy supplies I can read an advertisement in a magazine and read out my credit card details to them over the telephone. I think that Internet commerce is still a novelty, which is why people are concentrating so heavily on the dark side of it. They forget about the positive aspects. People will routinely surrender their credit card details to firms on the phone or in a fax. There's nothing to stop these companies from abusing the information, but few people worry about it.'

Yet the stigma of online card snatchers is only one factor that has kept Toyota from selling even simple products such as spare parts online. Two years ago, the company was presented with the option of inserting a credit card space in its print advertising, but elected to continue to sell though its dealers. 'We're not rushing to add this option

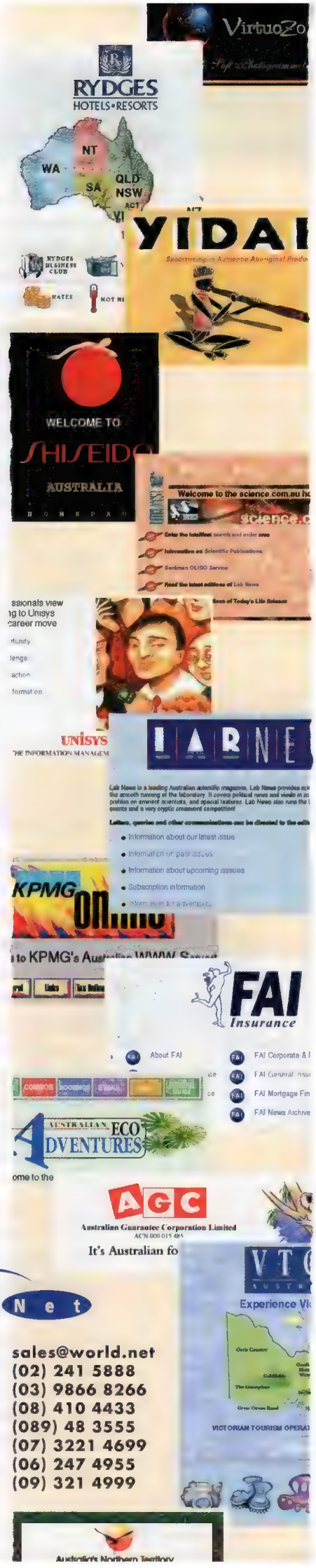
business @ world.net

Economies of scale through our international high performance frame relay network allow us to offer a full range of Internet services at extremely competitive prices.

- *email*
- *ISDN connections*
- *private virtual networks*
- *world wide web sites*
- *online ordering systems*
- *intranet solutions*

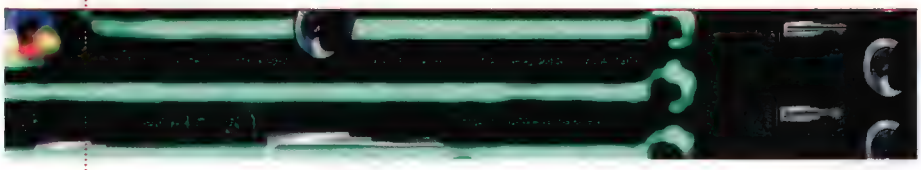
Join our other high profile clients and give your business a competitive edge.

Call: ***1800 806 755***



performance you can count on AUSNet

Email	**sales@world.net**
Sydney	**(02) 241 5888**
Melbourne	**(03) 9866 8266**
Adelaide	**(08) 410 4433**
Darwin	**(089) 48 3555**
Brisbane	**(07) 3221 4699**
Canberra	**(06) 247 4955**
Perth	**(09) 321 4999**



to our Web site. The dealers, on the other hand, can take advantage of this. We're doing experiments with placing our dealers on the Web right now. They're in a different format, because we wanted the dealers to appear separate to us. Some of our rural dealers, such as Mackay, are conducting their own trial runs separate to head office. Our dealers have complete autonomy and can do whatever they want on the Net, just as they can advertise independently.'

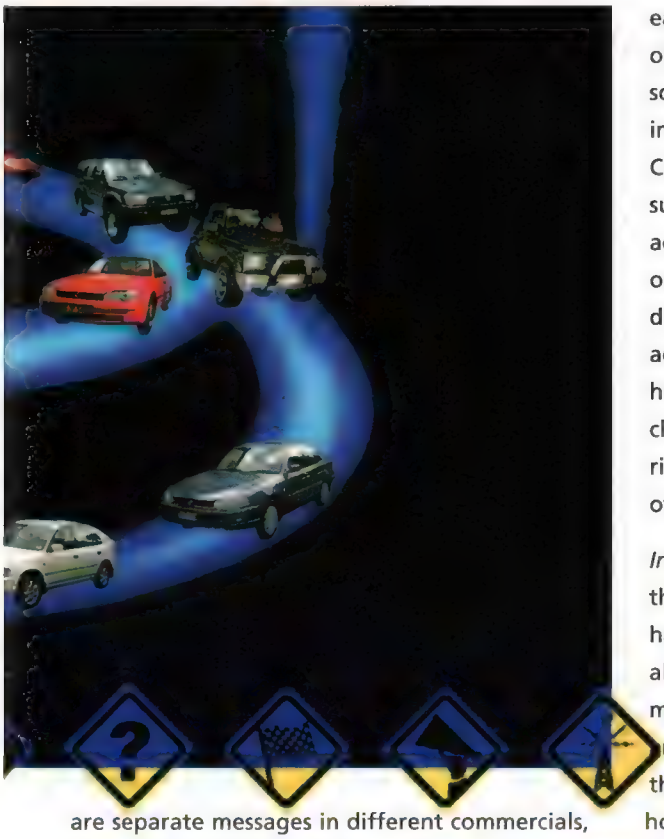
Toyota's Australian division has complete autonomy from its Japanese parent, and from other divisions worldwide. 'Of course, we are expected to act responsibly so we don't threaten the business viability of other location. We wouldn't do anything that would bring criticism against our American, European or Japanese counterparts. You need to be careful with the way you use the Internet because it is a very open window to the planet. You can offend someone in Greenland who will react against the Swedish or Danish distributor. To him, Toyota is Toyota, as the logo is the same everywhere.' Indeed, much of the success of this Australian site has come from its interactions with a growing overseas audience. 'People are becoming transportable and transferable', notes Miller. 'A good friend of mine who was running magazines in Australia was promoted to Time in the USA. We talk to each other on the Net, and we were able to deliver components to him that are unique to Australia for a Land Cruiser that he bought in Vermont. He couldn't find a bull bar over there. Sydney City Toyota have sold several cars to people overseas who were transferring here. They had inquiries because they were easily accessible on the Net. One woman from California was quite familiar with the Toyota Celica, as it's essentially the same vehicle anywhere, and was able to take delivery of one in Sydney. A Toyota dealer in London bought a car for his daughter in Sydney across the Net. We even have dealers talking with each other this way.'

Miller claims that differences in regional cultures favour a decentralised approach to marketing an international firm on the Net. 'What's big in one place won't necessarily have any appeal in another.' Hence the site carries its share of Australian content that often doesn't appeal to foreigners. In his view, a far greater problem for Web advertisers to confront is the totally passive nature of the medium. 'The most dangerous thing you can do in advertising is to be boring. We're the world's most conservative motor corporation, but the reason why our advertising works is because we put blood, sweat and tears into it to make it interesting. That can involve making it humorous or controversial. It's easy to get boring when you just have a hundred pages of raw data.

We're the world's most conservative motor corporation, but the reason why our advertising works is because we put blood, sweat and tears into it to make it interesting.

Our site has something for everyone, with so many pages of links.'

So much of the appeal of Toyota's site comes from material that doesn't even relate to Toyota's own products. The site is filled with a 'MegaList' of sport and entertainment links that has few rivals in the indexing field itself. Yet visitors to the site who don't even browse through Toyota's cars aren't a waste of time. 'The objective is to make our brand first in people's minds. Whether it's Australians today or in 2020 is irrelevant. You could be a penniless student today, but tomorrow you could be the chairman of a corporation. At that point, you become very interesting to me, and I want you to think well of Toyota as a brand. That's why we've been so consistent over the years with our 'Oh, what a feeling' advertising campaign. There

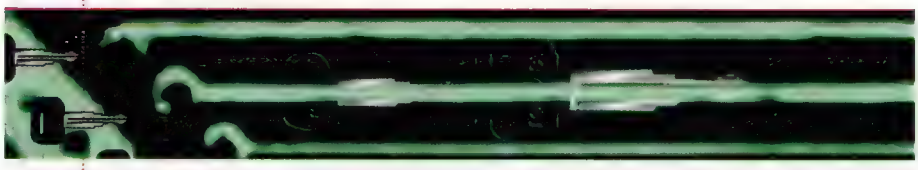


are separate messages in different commercials, but they all end with the same feelgood message. We've been doing this for 13 years, and consistently sponsoring shows such as 60 Minutes. People who grew up watching these shows as teenagers are now in a position to buy our products.' The Australian Toyota site is only one of three Toyota sites currently active in the world, joining Japan and the USA in this field.

Toyota's Japanese online headquarters at **http://www.toyota.co.jp** and their American equivalent at **http://www.toyota.com** both reflect the autonomy of regional branches in their design, with different features and layout. More sites are being developed, but Miller does not expect an individual site for every part of the world where the firm has an office. 'Different locations have different interests. Some see it as an opportunity and some don't.' miller expects that every regional office will at least confront the issue soon, even if no action is taken. 'Don't forget that the Internet is a relatively new thing, and the car industry is very conservative. I was surprised that Toyota in Japan went into it with such a big investment. They've invested several million dollars in their site. The Americans have as much of an interest in communications as we do, and with such a huge nation and market, it's easy to succeed. Here, there are only around 650,000 new vehicles sold each year. Used vehicles is an important market, and Sydney City Toyota have had a lot of success with marketing them across the Net. They have an online classifieds section. It's no different to running a classified advertisement in a paper. Fairfax have always described their classified advertisements as the river of gold. Well, this is our river of gold.'

Fairfax have always described their classified advertisements as the river of gold. Well, this is our river of gold.'

Internet Australasia has found that several large corporations have turned to the Web as an alternative to distributing printed material, which saves both money and trees. Miller does not believe that Toyota's Web site can ever hope to completely replace brochures, but it will enhance them to a degree. 'There will be cost savings', he admits. 'Toyota is one of the great cost-cutting firms in the world, and this provides another opportunity to do this. There will be people retrieving information from the Internet who use it regularly, and this will be their method of choice, but clearly not everyone has an interest at the moment.'



Miller denies that the Web site was targeted at a specific demographic, but Toyota is quietly gathering information through a feedback form. 'In about a year, we shall become more sophisticated. At the moment, we are giving people are huge menu of options. We want to see why people are coming to visit us.

A lot of our hits are through the motor sports channel, where you can find the results of a rally even faster than through AAP. This is because we're working at it, and we think it's important. This gives our site a competitive edge. People then go to other parts of our site. Motor sports are very international, and we get a lot of hits from Europe.'

'I like our Lexus site most of all. The Lexus page is a gateway to the financial pages. It's quite different from the Toyota page, because we think the Lexus buyer is different. As a result, we supply different information at these sites.'

'Buy a book called *Guerilla Marketing on the Internet*! But seriously, you need to ask what's in it for the buyers.'

When asked directly for his advice to other companies who are just starting out on the Internet, Miller states directly: 'Buy a book called *Guerilla Marketing on the Internet*! But seriously, you need to ask what's in it for the buyers. I'm impressed by a small firm in Queensland who sells fishing lures online. He has worldwide sales, because he's offering something that everyone has an interest in. Similarly, I think it's great that I can exchange information with a model airplane club in Iceland. Qantas and Iceland's own airline both started with the same Avro airplanes, so there's a common thread.'

The Web site is being revised almost as constantly as it is monitored. 'We're learning things all the time. We are adding to it, but I don't want it to grow ad infinitum. We will even trim things off if they don't work. The goal is to produce the optimum environment for sales.'

Toyota Australia's push to conquer the Web contrasts sharply with the rather slow initiatives of other car companies, both locally and worldwide. Miller is somewhat blunt in his appraisal of the difference. 'I don't think that they care. For us, it's a passion. Our goal is to make Toyota the number 1 choice, but people still don't think of us as the major retailer. When I finish, I will consider myself a success if people looking for cars go to Toyota first. The Net will help in making the next generation feel this way.' As a part of his plan to educate Toyota's clientele in both Toyota's own Web site and the Internet in general, the Toyota has displayed the site on terminals at motor shows. Some dealerships sport connections that allow visitors to inspect the material.

Internet Australasia encountered various reasons that were suggested as explanations for Toyota's success, but Miller identifies one aspect that he feels is significant. 'I think other companies go wrong because there is nobody inside the place who is dedicated to the success of the Web site. Here, we have a young, well-educated employee named Andrew Plowright who is the chairman of our Internet committee. He meets with the product planning people, sales, marketing, parts, service and customer satisfaction every two weeks to discuss what they can do with the Web site.' Plowright himself explained that 'everyone here likes to be ahead of the rest. While there could have been resistance to a new idea, the benefits to the company were easy for everyone to identify'.

'People can contact us through the site, and we can get back to them with the information they requested. Some people are looking for their nearest dealer. Others want to know our plans for the next year.' Despite Toyota's reluctance to directly sell its products online, Plowright is happy that at least one client has directly sent an email to request a car, and ask where to report!

INTERNET SERVICE PROVIDER

Surf the net with the SuperServer!

BlueSky OPC the latest **Internet service provider**, is offering unlimited Internet access from **$28 per month** with no extra costs!*

BlueSky OPC! It's **super easy, super fast,** features **multiple language service** and a **super security** system to protect against hackers.

More Information? **Contact BlueSky OPC** now for **registration** to access and ***surf*** **the super-highway!**

For the inexperienced surfer we also **install** and **instruct.**

Honestly, BlueSky's the limit!

Phone (07) 3344 5779

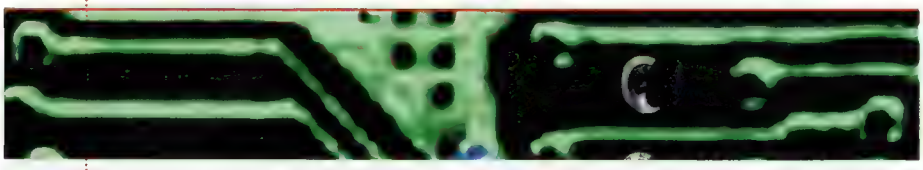
* 1 Month Registration	6 Month Registration	I MONTH FREE 12 Month Registration
$35 per month	$28 per month	$28 per month

UNLIMITED INTERNET ACCESS

BlueSky OPC Pty Ltd.

Internet Service Provider A.C.N. 070 900 195
Suite 3, Pinelands Road, Sunnybank Hills. Q4109.
Phone (07) 3344 5779. Fax: (07) 3344 5739.

Hold the World. Reach the Top!



Planning the Attack

Creed O'Hanlon was one of a handful of principal contributors to the development of Bob Miller's vision. His company, Spike Wireless designs Web sites and devises applications that are appropriate to them, from copy to animation elements. As O'Hanlon explained, 'the most exciting thing about Toyota is that they came to this completely free of any preconceptions of how we should approach it. We had built one other site before this, and we spent many late nights sitting in cafes with other upcoming Web designers. We all sat around and argued about what the very concepts behind designing a commercial Web site were in any event. Some people approached it from a computing point of view, and others approached it from a design perspective. So Toyota simply evolved.'

Creed O'Hanlon

...'the most exciting thing about Toyota is that they came to this completely free of any preconceptions of how we should approach it.'

Despite the impressive array of material that currently exists there, Spike devised the earliest version of the Toyota site almost as an off-the-shelf product. 'We put together half a dozen pages and took them to The Project Group, Toyota's public relations company. We demonstrated it to them, and they elicited Bob Miller's interest in turn. From that moment onwards, Spike and The Project Group entered into a partnership. The Project Group supplied us with essentially the standard elements of public relations, such as photography, copy and the specifications of the cars. We then figured out how to use this to build a site.'

Repackaging traditional public relations material into an online format was a fairly straightforward process, but growing the site beyond its first phase represented a challenge to O'Hanlon and his colleagues. Indeed, constructing a substantial corporate Web site for any firm was still a case of venturing into largely unexplored territory. 'Until Toyota, most corporate sites were very simple home pages. A few financial institutions had half a dozen files up there with information in a non-interactive form. It was all pretty boring. Admittedly, when you look back at the earliest Toyota site which was designed before the widespread distribution of Netscape 1.0, it had little more than grey text and a few stark logos. The first version had around 50 files, and it grew to about 100 files within six weeks simply through the addition of all the specifications and photographs of Toyota's cars. There are 129 models, which adds up to a lot of material. We also added the Toyota MegaList of sports and entertainment links as well as the country music association site. Bob's links to Time Warner led to us placing the Time Warner country music catalogue online. It just grew like topsy.'

With the development of Netscape, the site changed its appearance. Spike added a fairly simple background colour and more graphics. The delivery of the site became faster as the service providers increased their own capacity, and O'Hanlon claims the growth of the site parallels that of the Web itself. 'In the early days when there were a lot of prejudices against the Web, the feeling was that it should be fast. Most people were dealing with second-hand knowledge about the Net, feeling that it wasn't as good as television or reading a brochure. It was seen as slow, tedious and cumbersome. We decided that we would sacrifice some of the visual pizzazz in order to get information across

quickly.' The result was a heavy emphasis on graphics that were simple and usually one colour. 'In a sense, that need to convey information efficiently remains a guiding light in developing it. Throughout the site, there are forms where you can give your information back to Toyota and participate. It's not as thrillingly interactive as some sites, but it does the job effectively. We also know that many visitors to the site are newbies, who haven't been online for more than six months. The site is very welcoming to them. It doesn't have vague graphics or obscure image maps. It's straightforward, and even has road signs they can click. The site isn't exciting for any special effects but for the momentum it has. One of the problems that Toyota has is that we feel it is time for a substantial revamp, such as adding frames. You could have a photo of a car displayed in one frame while you scroll through its specifications in another. The site is so big that revising it is a daunting prospect!'

The site is no longer a leading edge product, but O'Hanlon believes it remains impressive due of its size and the way it has taken a lead in strategic alliances. 'There are companies that are very powerful in their own right, such as Toshiba and Time, who are linked to the site and have gained benefits from being linked there. Strategic alliances of various forms are becoming commonplace within the industry, but I have to say that a lot of people have copied us. Spike is unique among the smaller independent companies in that we don't represent five or six clients. We represent thirty, including Greater Union and Sothebys.'

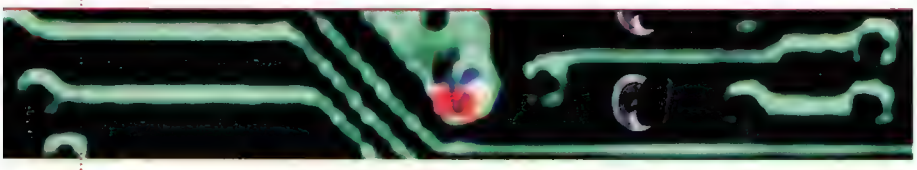
The approach taken with Toyota mirrored a strategy adopted by O'Hanlon with other clients. Spike advocates an alternative to traditional advertising-style situations in the form of an online community strategy. 'Instead of just putting logos on each other's sites, we wanted to get around a table and see if we can help each other with product launches to markets that we each have at our sites.' The alliances that were formed from this collaborative marketing attempt frequently did not exist before the Internet was used. Nevertheless, the project reawakened some dormant alliances between people who had known each other through previous business dealings, often during employment periods with other companies. 'Spike also wasn't alone in forging this', stresses O'Hanlon. 'We were strongly encouraged by Bob Miller, who encourages relationships like this wherever he can, and also by Martin Collins from Time Magazine. Martin is their marketing manager of new media and their senior accounts manager, and looks after Toyota as a client of the magazine. With Bob's encouragement, he became very keen on the potential of all of this, and kept our focus on what we were doing. He also steered us away from some of the pitfalls that some of our competitors fell into.'

The major pitfall avoided by the team was a tendency among other developers to fall back on the traditional ways of selling advertising. 'You have a spot that's a certain amount of seconds or

'They're still selling space. They're not selling dynamic ideas. In some cases, they sell buttons that lead to established corporate sites, but so what?

centimetres long, and for a certain fee per month, you can advertise in it. I think that the Net is far more interesting than that, and the promotional opportunities between any group of companies, or even only one, can be a lot more subtle and effective. Few people seem to understand this.'

O'Hanlon claims that most of the conventional magazines that have generated an online presence are guilty of this very mistake. 'They're still selling space. They're not selling dynamic ideas. In some cases, they sell buttons that lead to established corporate sites, but so what? There must be a way that someone can click on a button, flow through some specific information in an entertaining way, and then flow back onto the



site.' Using a conventional advertising model in a hypertext environment can be a disaster, especially when jump buttons to other sites are used as promotions. 'The client a user jumps to definitely benefits, but the original site loses that person from their environment. We have a theory that once a person is three or four files away from the "mother page", they are lost to us. The Net just keeps expanding before them! As an alternative, we would like to create an online environment like people gathered in a room. You can move from group to group, but you always remain in that room. I think that the Net has a lot of unexplored potential in this field. The traditional rules of advertising should be thrown out the window!'

we kind of know where we're laying the foundations, but we haven't entirely completed the blueprint of what happens from this point onwards.'

Nevertheless, O'Hanlon confesses that the new rules advertisers need to systematically use the Web for advertising still remain rather undefined. The Toyota Web team hopes to discover more of them. 'Through Bob's marketing ability and his experience with more media than most managers see in an entire career, we're setting out on a grand adventure. We're not too sure of what's out there. We know how big the space is, and we kind of know where we're laying the foundations, but we haven't entirely completed the blueprint of what happens from this point onwards.'

O'Hanlon's vision may conjure up strange images of executives heading off for a wild roller-coaster ride through the Net, but O'Hanlon assures us that the development of the site has never been a helter-skelter process. Spike's chief designer, Ruby Blessing has supervised every phase of its development to ensure that Toyota's Web site remained consistent and tasteful. O'Hanlon himself cites his own training as a classical musician as the source of his sense of structure. 'We feel that our sites are all coherent and highly navigable, and we have certainly honed our skills with creating the Toyota site because it is so big. Certainly, there's a helter-skelter element to the way we throw around our ideas, and Bob has allowed us to work without the usually heavy layers of bureaucracy that usually accompany an advertising project. The skeletal frame of the site is essentially sound, though. It may get weighty, but it's scalable. The worst sites out there are the ones that don't have any underlying structure, and viewers can lose their direction in them.'

The capabilities of the Web itself have now grown far beyond the material that Toyota's own site carries, reversing the previous trend of waiting for the technology itself to advance. Despite the new opportunities that plug-ins like Shockwave offer for multimedia content. O'Hanlon is reluctant to add these to quickly to Toyota. 'Spike tends to have a rather hip and cool reputation, but there is an underlying functionality about what we do. There is no point in adding something that 80% of the browsers cannot display immediately. That's significant for other sites. If you were designing a site for a hip record label, you could always adopt an attitude of 'get cool or get lost'. But with big corporate sites, we have an obligation to serve the mass market. I think that QuickTime VR is particularly useful, but even then, you have to download the driver.'

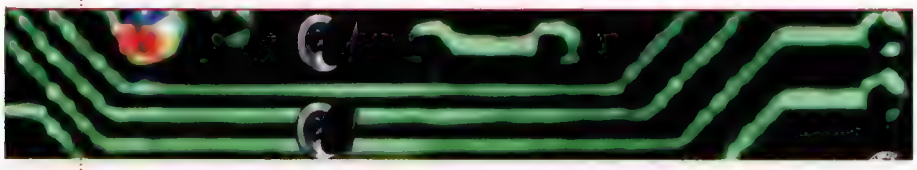
Even when new additions to the site aren't being planned, Spike is kept busy with their Toyota account through their constant monitoring of the feedback they receive. In keeping with its popularity, Spike has found that traffic in both directions across the link tends to be high. 'We inspect the traffic that has gone through the site on a weekly basis, and go through the referrer list to check where the bulk of accesses are coming from and which parts of the site they are visiting. Curiously, Monash University, which has a 4-Wheel Drive club, has delivered us 8,000 people to view Toyota's 4-Wheel Drive section. Motorsports and new products are the other major drawcards. Oddly, the MegaList has not been as popular. The button isn't prominently displayed and it hasn't had a lot of press, but we intend to change the buttons and logos soon to see what

effect we can produce. Another trend is that people do appreciate links from Toyota into other parts of the Net, and it seems that they return to the Toyota site. In the early days, Bob understood that we needed other elements beside cars to make people come back repeatedly. In those return visits, you could surprise them with a new idea or a product that could get their attention back on the cars. But what we're finding is that the cars seem to have a lot of appeal by themselves. People are surprised to find out how many models Toyota has, and they want to explore them all. If you compare the hits to a site with the subsequent number of accesses, most sites average a ration of about ten to one. Toyota averages a ratio of about 48 to one! We're getting a lot of interest!'

Toyota are clearly pleased with the attention they have received, but found unprepared for the enormous success of the site. 'I think they were counting on a few hundred people sending them back forms', observed O'Hanlon. 'Instead, the level of responses from forms or normal email has been in the thousands per month! Toyota is only now beginning to put in an infrastructure that can respond and help with this level of feedback.' One surprise for the team was the willingness of visitors to provide them with information. 'If a woman came up to you in a supermarket with a clipboard and asked you the same questions, you would probably avoid her. On the Toyota site, people are very prepared to give you information. There's a sense of people wanting to help the company, especially if they are Toyota owners.'

Typical feedback from the site includes reports of experiences in driving Toyota cars, and statements on whether or not the site's visitors intend to purchase another one. 'People do get a sense that they contribute to future models. We have an option where they can comment on details that they like or don't like about the models they are driving now, and can suggest changes like moving the cup holders. It takes a little synthesising from the company itself to exploit that, but that's beginning to happen. It will be interesting to see where we're at in six months.'

Toyota is only now beginning to put in an infrastructure that can respond and help with this level of feedback.'



The feedback sent to Spike has revealed a demographic pattern that generated few surprises. In keeping with the use patterns of the Internet itself, most feedback originates from user who are 25 to 40 year-old male white-collar workers or academics. The only difference Spike observed is that most Toyota visitors do not tend to be dedicated computer buffs. 'They learn to use computers at work, but access us from home.' Spike also discovered that the bulk of email sent to Toyota is composed in traditional prime time hours for television. 'The scenario we envisage is of an executive coming home who kicks off his shoes and instead of switching on the box, he turns on the computer to unwind. They check their email and surf a little bit. They're relaxed and tired. If you ask them to answer a question, they will, and often they do so in great detail. It happens between 7:00 PM and 10:00 PM.'

It was like delivering a 10 pound baby...

Spike's experiences with Toyota may suggest that the company has discovered the magic bullet for successful online marketing, but reaching the same level in other promotions is not as easy as simply duplicating the motions. Spike has a history of developing popular sites, but O'Hanlon does not expect that any jobs in the near future will match his experiences with Toyota. 'Most new ventures that we have undertaken somehow come to life fully formed now. There's a long consultation period with the client to make sure that the aims and appearance of the site are fully established. The site is often launched in a complete state. Take Greater Union, which has been in gestation for a couple of months. Although it will grow, it won't grow as dramatically as Toyota did. I haven't had another experience like Toyota, and other Web developers I have spoken to haven't either. It was like delivering a 10 pound baby that's growing up into a 6 foot 6 man. It's Bob who has force fed the site to keep it growing!'

The End of The Line

The online service provider represents the final stage in bringing Toyota's Web site to the consumer. Sydney-based ISP Microplex host Toyota's online presence, yet the technical side of delivering the finished product is rather mundane when compared with the dynamics of the design process. 'Apart from Toyota's stature as an organisation, there aren't any major differences in hosting their site', said Steve Engel, Director of Sales and Marketing. 'From a provisioning standpoint, the number of hits they receive has an impact, but the development is similar.' The company secured Toyota's clientele through an established relationship with Spike. 'They go out and find the business and do their creative work. We handle any technical problems and put the Web site online.' Engel admits that traffic to the site is extraordinarily high, but this ISP holds several sites that also receive large numbers of hits. the provider uses statistical analysis software that allows Microplex to provision bandwidth according to the expected traffic levels.

From a technical perspective, Engel's views on sophisticated Web additions reflect the cautions expressed by Spike. 'Shockwave and Java are technically complicated. You need skills that are way above just straight graphic design and layout. From the client's viewpoint, it's like doing a TV advertisement when only 1% of the population have sets. There isn't a lot of value in it.' Engel claims that he would hesitate to embrace a new technology until it became clear that it is going to be all-encompassing. 'Shockwave has a lot of potential, but we all still want to wait to see if everyone wants to use it. Java is a different story. I think it's very clear that Java will be an important part of the Web, and I can see us implementing it soon on the Web. Java is basically C++, and we have the in-house skills to implement it.' So far, there has been little conflict between the design requirements of a graphics team and the technical limitations of the medium, but Engel is swift to point out that Toyota's site is hardly a challenge to programmers. The latest addition Microplex have installed has been sound files, but this is hardly a new innovation. Similarly, the constant updates made to the site places few demands on Microplex. 'It's a graphic design and layout issue, which is Spike's job. If they didn't do that, the site would die. If you look at a TV ad that's always the same, you tend to switch off.'

Microplex were not involved in the development of Toyota's site until midway through the

development phase, but sometimes involve themselves in the initial consultations. 'The stage at which we come in depends on the technical complexity of the site. Publishers do the graphic design that we're not capable of. If you look at the worst pages on the Web, look at those that service providers themselves do! Our involvement depends on the technologies that need to be added to the graphics, which is our own specialty.' Despite the technical skills that are required to maintain their service Engel is quick to stress that Web work is never in the league of rocket science. 'It's predominantly a talent based around the look and feel of a site's graphic design.'

The issue of the limited bandwidth that's currently available to most dial-up users limits the design of more than just the Toyota site, but Engel is optimistic that the situation will change soon. 'ISDN is available now and is only 80 cents and hour at an off-peak rate. This isn't band for around 6 times the speed of a conventional modem, but it still costs more than a standard phone call. ISDN prices are falling, but I'm not sure how low they will go. We expect that at least 80% of the dial-up market will have high bandwidth access through cable services eventually, and this should be available in about a year and a half.' However, Microplex predict that another four years will pass before higher bandwidth connections have truly proliferated.

In the meantime, Toyota's focus on the mass market suggests that improvements will continue to be made to the site, but the conservative approach of their marketing strategy in general will continue. Having established a formula that has worked so often in the past, this manufacturer is unlikely to change its overall approach. As Miller himself stresses, promoting his company on the Internet is not an isolated experiment, but one element in a much larger strategy. ¶

...Web work is never in the league of rocket science. 'It's predominantly a talent based around the look and feel of a site's graphic design.'

CIA

GETS YOU WIRED

Option 1: **Premium**
$29/month
Flat rate
+ FREE homepage
$25 Setup fee

Option 2: **Casual**
$1.50/hour
No monthly minimum
start with $70 credit + $25 Setup fee

Option 3: **Business pack**
$49/month
Includes domain name, 10mb web pages, phone support
$95 Setup fee

Swapover Deal
Switch from another ISP to a premium or business pack and get 1 month access FREE

Bonus Incentives
Earn free time for each person you sign up.
CALL for details

Permanent Links
ISDN or 28.8k.
CALL for details

World Wide Web
Publish your brochures/ pamphlets on the Internet from as little as $20/month.
CALL for details

Connect Infobahn Australia
Phone: +61 2 566 2720
Fax: +61 2 566 2721

sales@cia.com.au

http://www.cia.com.au

net diary

ELECSIM 1996

Till Jun 14 '96 Internet

Distributed military modeling and simulation is expanding rapidly. It has, and will continue to, encounter issues regarding the interoperability of large numbers of heterogeneous simulations. The ability to create synthetic environments in which all participants compete on a fair playing field is essential to the validity and operation of distributed simulation systems. DoD concepts to facilitate these systems include the High Level Architecture, Conceptual Model of the Mission Space, and Data Standardisation. These and other concepts will be necessary to support the military training requirements of the future.

URL: http://www.mystech.com:80/~smithr/elecsim96/

Digital Media World

May 1-3, '96 Sydney, Australia

The digital media revolution is here and Digital Media World is the place to put your finger on its pulse. The event is a celebration of the world's fastest-growing computer application areas focusing on the increasing creativity, power and affordability of the latest graphic digital media technologies. Users, developers and buyers of these technologies will attend Digital Media World to monitor the latest developments and to do business. Digital Media World is a must for all companies competing for their share of the growth in these markets.

URL: http://www.ozemail.com.au:80/~acmp/dmw/

Law of Information Superhighways and Multimedia

May 3, '96 Monaco

The goal of this symposium is to review the main legal issues raised by the evolution of online communications. Topics to be covered include copyright issues, electronic mail, online business security, online payments, responsibility for criminal behaviour online, freedom of speech, access to information services, freedom of circulating information and the protection of public liberties.

URL: http://www.kweb.com/fulltext/7727.html

IEEE Custom Integrated Circuits Conference

May 5-8, '96 California

USA CICC is the premier conference devoted to IC development. It provides a forum for circuit designers, CAD developers, manufacturers and ASIC users to present and discuss exciting new developments, future trends and innovative ideas. CICC is sponsored by the IEEE Electron Devices Society in cooperation with the IEEE Solid State Circuits Council.

URL: http://uivlsi.csl.uiuc.edu/~brian/cicc.html

4th Annual International Conference on ISO 9000

May 5-7, '96 Florida, USA

The Fourth Annual International Conference on ISO 9000 is dedicated to providing comprehensive and useful information on ISO 9000, QS 9000, TE 9000, ISO 14000 and other related Quality Standards. Through Technical Paper Presentations, Panel Discussions, Short Courses, Work Shops and Exhibits, attendees will gain valuable knowledge to

MORE "HITS" THAN ELVIS PRESLEY

http://www.world.net/touristradio

CHECK OUT TOURIST RADIO'S BEST OF THE AUSTRALIAN SITES INDEX

TOURIST RADIO INTERNET PTY LTD · (02) 524 8778 EMAIL: radio@world.net

Here is our latest Diary dates for what is happening around the world concerning the internet

implement, maintain, and improve Quality Systems. This conference is ideally suited for those who have intermediate to advanced knowledge of ISO 9000 and want to expand their knowledge with practical information for continuos improvement. In addition, there are also dedicated sessions for those who are new to ISO 9000.

URL: http://pages.prodigy.com/MA/quality/systems.html

Telemedicine: Reality & Virtual Reality II

May 5-7, '96 — New York, USA

This program is intended for physicians, educators, researchers, administrators and other interested health/computer related professionals. The program will focus on advanced communication and computer technologies and their applications in the health care setting. Participants will be offered a series of lectures describing innovative projects in Telemedicine supplemented by several demonstrations. A commercial exhibit area featuring many of the products to be discussed will serve as another information resource for participants.

URL: http://carenet.hscsyr.edu/conference.dir/Conference.html

1996 IEEE Symposium on Security and Privacy

May 6-8, '96 — California, USA

This regular symposium will deal with topics such as the security of patient records in medical information systems, entity authentication, public key protocols and cryptovirology. It will be held at the Claremont Resort in Oakland, California.

URL: http://www.cs.pdx.edu/SP96/

Advanced Technology in the Environmental Field

May 6-9, '96 — Gold Coast, Australia

The purpose of this conference is to act as an interdisciplinary forum for researchers, academics and practitioners interested in the advances, applications and effects of technology in the conservation and rehabilitation of the natural environment and its renewable and non-renewable resources.

URL: http://www.cuug.ab.ca:8001/~warwodad/iasted.html

ATM: Year 96 - Conference and Exhibition

May 6-9, '96 — California, USA

Now in its 4th year, ATM Year 96 features a broad international attendance of vendors, carriers, customers, investors, and analysts, covering the full range of ATM chips, adaptors, switches, LANs, WANs, software, and applications.

URL: http://www.ttlcom.com/atm/index.html

Fifth International World Wide Web Conference

May 6-11, '96 — Paris, France

The Fifth International World Wide Web Conference aims to bring together users, developers and researchers working with the World Wide Web. The conference will provide participants with the opportunity to come together and share the current knowledge and research about technology, tools and applications. An exhibition will demonstrate the latest achievements in products, services and applications on the World Wide Web.

URL: http://www5conf.inria.fr/

Establish an effective Web presence with

AUTOBAHN

- Create dynamic and interactive Web applications for internal and external users
- Rapid development using an established industrial-strength 4GL
- Enables true electronic commerce
- Database independent

SPEEDWARE®

For more information call us:
Tel: (02) 9956 7699 Fax: (02) 9929 8703 Url: http://www.speedware.com

2nd Annual South Pacific Security & Access Control Conference

May 7-8, '96 — Brisbane, Australia

The 2nd annual South Pacific Security & Access Control Conference — ACCESS-96 — is set to be the premier, specialist security event for 1996. The theme for the conference is Systems Integration: Prevention, Detection, Control & Intervention and will feature an outstanding line-up of local and international speakers. Keynote speakers are Richard P. Grassie, CPP and Lawrence. J. Fennelly, CPO. A specialist security exhibition is being held in association with the conference. The conference will be held at the Brisbane City Travelodge.

Email: amtac@ibm.net

IEEE International Conference on Acoustics, Speech and Signal Processing

May 7-10, '96 — Altlanta, USA

Sponsored by the Institute of Electrical and Electronics Engineers Signal Processing Society, ICASSP-96 is the twenty-first in a series of international conferences presenting work in experimental and theoretical signal processing, speech and acoustics. This year there will be 911 papers presented out of some 1740 submissions. There are six special sessions: Signal Processing for Wireless Communication Systems, Education, US DoD Selection of the 2400 BPS Standard, Sensor Array Datasets, Digital Video: Content Processing and Methods and Tools for Rapid Prototyping of DSP Systems.

URL: http://www.ee.gatech.edu/conferences/icassp96/

The Environment on The Net Conference

May 9-10, '96 — Seattle, USA

This conference is being established to provide a forum for exchanging ideas and exploring new opportunities for effective use of the Internet for collaboration, outreach, networking, and research related to environmental issues. The conference will combine a series of invited Plenary lectures on the environment, the Internet, and how the Internet is becoming a key tool for environmental professionals. The second day of the conference will feature three parallel tracks of submitted papers and posters on innovative applications of the Internet to the environmental field.

URL: http://www.enviroindustry.com/conference/

Toward an Electronic Patient Record '96

May 11-19,'96 — San Diego, USA

This annual conference has become the focal point for all those interested in the planning and implementation of electronic patient records. For end-users, developers, institutions and planners from the United States, Europe, Asia and other parts of the world, this conference provides information on developments, standards, implementation issues and experience reports, as well as many other topics.

URL: http://www.medrecinst.com/tepr96.html

New Internet Chameleon Only $199

- *Archie and Gopher Information search utilities along with FTP file send and retrieve*
- *Electronic Mail and ECCO Internet Address Book with over 2,000 Internet sites*
- *Winsock TCP/IP stack supporting high-speed dialup Internet access via SLIP, PPP and CSLIP connections up to 115.2k baud and native ISDN. DHCP and dial-on-demand*
- *NEWT Shooter - automatically addresses a new mail message or shoots text into the body of a message*
- *Telnet - Terminal Emulation*
- *WebSurfer for Surfing the WWW*

Open Systems Pty. Ltd.

Tel: (06) 239 7533 Fax: (06) 239 7493

WINDOWS MAGAZINE 1995 WIN 100 — Sept 1994 — Sept 1994

Fourth Annual East/West Electronics Executive Forum

May 12-15, '96 Moscow, Russia

An Executive Forum to spearhead electronics business development in Russia and the NIS. Meet face-to-face the executives who will shape the future of Russia's electronics industry on their home ground in Moscow, Voronezh and Zelenograd, Russia's silicon valley. Speakers include top management from Russian/NIS semiconductor companies, government officials, leaders in telecom, automotive, computer and consumer equipment manufacturing. Visits to Russian electronics companies in Moscow, Zelenograd and Voronezh.

Email: 62903343@eln.attmail.com

ADL '96 - Forum on Research and Technology Advances in Digital Libraries

May 13-15, '96 Washington D.C., USA

Digital Libraries has recently attracted widespread interest from many quarters. This technology may prove to be a catalyst for the NII (National Information Infrastructure) and form the backbone of wide area electronic commerce. It promises universal access to vast amounts of information for improving the quality of life. The forum will feature research papers, panels, exhibits, and a significant industrial track highlighting prototypes and applications of digital libraries in science and industry. In addition, this year's forum will focus on issues related to global networked libraries for Electronic Commerce, Environmental Monitoring, Law, and Medicine.

URL: http://cesdis.gsfc.nasa.gov/admin/adl96/adlcall.html

The Fifth Annual Conference on System Administration, Networking and Security

May 13-17, '96 Washington, D.C., USA

The annual SANS conference combines System Administration, Networking, and Security – covering both the human and technical sides of these topics. SANS96 continues the tradition of focusing exclusively on practical solutions to today's administration, security and networking problems, providing techniques you can put to work immediately. This year's emphasis on cost effective solutions and techniques for today's shrinking budgets will enable you get the most out of your information technology dollar. SANS96 will also provide a unique opportunity to review the most popular commercial software tools and focuses on how those tools lower the costs of managing UNIX and client/server computing. Evenings will include both Birds Of a Feather sessions and other special events.

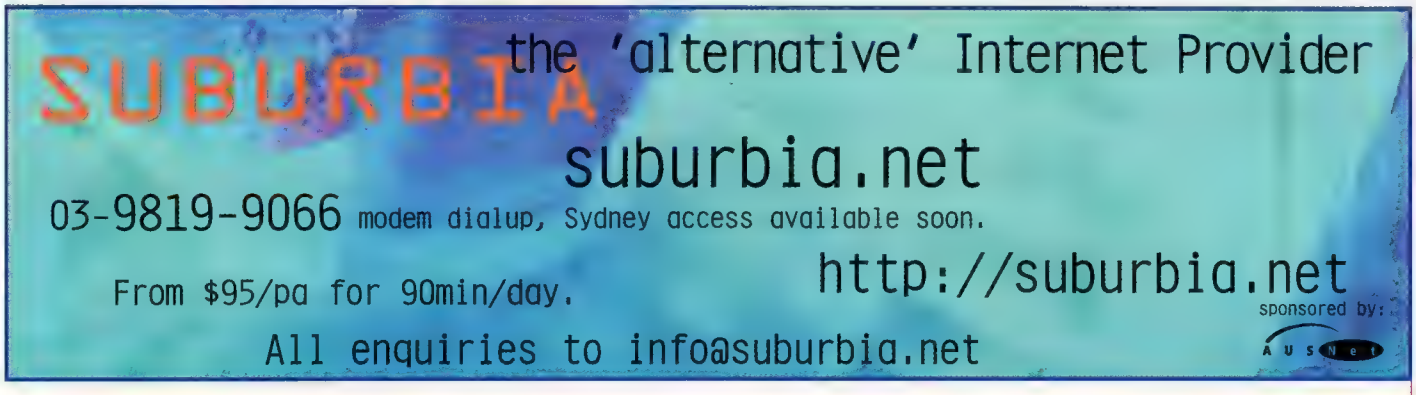
Email: sans@clark.net

CAiSE '96

May 20-26 '96 Crete, Greece

CAiSE 96 is the 8th in the series of CAiSE Conferences which provide a forum for presentation and exchange or research results and practical experiences within the field of Information Systems Engineering. The main theme of the CAiSE 96 Conference is 'Software Engineering Challenges in Modern Information Systems (IS)'. An indicative but not restrictive list of such IS, includes Open Client/Server-based IS, Digital Libraries, Interoperable IS, Global Information Systems in the Internet, Multimedia IS, and Re-Architectured Legacy Systems.

URL: http://www.ics.forth.gr/caise96



International Symposium on Work in the Information Society

May 20-22, '96 Helsinki, Finland

Work and working conditions have changed in the past few years as a result of the vast technological developments. The advancements in technology allow us to use the available information more effectively than ever. There are good possibilities to build healthier and safer workplaces, to promote occupational health and safety, and to increase productivity. Several efforts are underway in the European Union, in the United States, in Japan, as well as in many other countries, to develop large-scale programmes for facilitating and managing the shift-over to the new information society. The aim of the Symposium is to highlight and propose principles for the transition to an information society, starting from the human needs for health, safety and well-being at work. These will be used as criteria for the development of new technologies and new systems.

URL: http://www.occuphealth.fi/tiedotus/info/index.htm

19th International Symposium MIPRO `96

May 20-25, '96 Opatija, Croatia

This conference is devoted to presenting and exploring scientific and technological advancement and original innovative applications in field of Multimedia and Hypermedia. The conference will promote existing hardware and software products, encourage mutual exchange of expertise in higher scientific and technical aspects of Hypermedia systems, and create an opportunity for establishing new professional contacts.

URL: http://mipro.irb.hr

IFIP SEC '96 - 12th International Information Security Conference

May 21-24, '96 Samos, Greece

The last decade has witnessed an explosion of interest in the field of information security; Interest is expressed by commercial enterprises, government agencies and academic/ research institutions. This is largely due to the growing risks that information and communication systems face with the advent of technology. IFIP SEC '96, the 12th International Conference on Information Security aims to provide a forum for presentations, discussions and criticisms on all aspects of information security, for new problems and new solutions with a view to identifying and meeting the security requirements of the information society of the 21st century. Structure of the Conference The Conference will comprise invited keynote lectures, refereed papers, student research papers and presentations of the results of European Union sponsored projects in information security, within the framework of programs such as INFOSEC, RACE, ESPRIT, AIM and TEDIS.

Email: sec96@aegean.ariadne-t.gr

10th ACM International Conference on Supercomputing

May 25-28, '96 Philadelphia, USA

The ACM International Conference on Supercomputing is an annual forum for engineers and scientists throughout the world to exchange ideas and research results relating to high performance supercomputing systems.

URL: http://www.cse.ogi.edu/ICS

INTERNET INSTALLATION SPECIAL!

FULL ON-SITE INSTALLATION

1 HOUR TRAINING

30 HOUR ON-LINE

For Only $95*

*Limited to 10km radius from the Sydney CBD

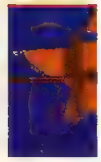
ACELNET

INTERNET SERVICES

ACCESS . HOME PAGE DESIGN. TRAINING

SYDNEY

(02) 662 6242



EDPAC '96 'State of Play' Conference

May 26-29, '96 Perth, Australia

The role of the IT and audit professional is now a critical factor in the success of any organisation. The integrity, security and cost-effectiveness of systems all have customer service, managerial, and ultimately, bottom-line impact. It is vital therefore that IT management and audit professional are aware of the 'State of Play' and contribute proactively to improvements. The keynote address, 'Changing audit to meet the needs of 2000', will be delivered by Hugh Parkes from National Australia Financial Management. Other speakers include Karl Krueger from the World Bank and Roger Jamieson from the School of Information Systems, University of NSW.

URL: //www.ece.curtin.edu.au/~spotter/conferences/edpac96/

6th European Symposium on Computer-Aided Process Engineering

26-29 May, '96 Rhodes, Greece

The major aim of ESCAPE-6 is to review the latest developments in the use of computers as well as systems and information technology tools in the design and operation of processing plants. The program of ESCAPE-6 will include invited plenary lectures, oral presentation of contributed papers, poster presentation of contributed papers and the exhibition and demonstration of commercial CAPE tools.

Email: geosteph@mit.edu

The 16th International Conference on Distributed Computing Systems

27 May '96 Hong Kong

The purpose of this conference is to bring together developers and researchers from universities, industry and government to advance the science and technology in distributed computing. The technical areas of the conference include distributed operating systems, distributed databases and information systems, communication protocols, distributed real-time systems, computer architecture and interconnection, distributed resource management and scheduling, mobile computing and fault tolerance.

URL: http://www.cs.ust.hk/Postings/ICDCS.html

'96 Information Security Summit

May 29-31, '96 Sydney, Australia

This summit will explain the risks associated with commercial pressures to implement new technologies and explore computer fraud. Specific exposures relating to banking and finance will also be explored. Topics include security, communications, authorisation, authentication procedures, electronic funds transfer and transborder dataflow. The use of preventive versus detective security measures and the relative effectiveness of the different control options and settings in systems will be explored. Speakers include Professor Bull Caelli from the Queensland University of Technology, John Rogers from the National Information Security Authority, Professor Jennifer Seberry from Wollongong University and Steve Orlowski from the Federal Attorney Generals Department. The Keynote Global Address will be delivered by Rebecca Duncan from Datapro Series and Information Security in the USA.

Email: commsaic@magna.com.au

DYMOCKS
BOOKSELLERS
Professional & Technical
Specialists in computer and technical books

We stock an extensive range of the latest releases on the Internet.

Phone and mail orders taken:
350 George St, Sydney (opp. Wynyard Station)
G.P.O Box 1547, Sydney NSW 2001

Phone: (02) 223 5974 Fax: (02) 232 3061

New Directions in the Gulf

June 1-4,'96 | Bahrain

The New Directions symposia offer an unique opportunity for Gulf business decision-makers to hear and question the leading exponents of new generation IT technology on how these developments will impact their business. The opportunity for companies to present their products to the region, and the opportunity for Gulf business leaders to see what these technologies can do for them, is unmissable.

URL: http://www.meconsult.co.uk/newdirec.htm

Global Positioning System Conference

June 3, '96 | Minneapolis, USA

The conference theme, 'One From Many', has historical significance in the development of the GPS system itself and is a theme which signifies the convergence of many professionals toward using GPS in their data gathering efforts. The unification of professionals has had a cross-disciplinary benefit that fosters better science and better public policy. This conference will explore the applications of GPS technology in various disciplines. The program will promote dialogue that strengthens communication and cooperation across disciplines and different segments of society.

URL: http://www.mtn.org/~zenkd/1996call.html

SDNE'96

June 3-4, '96 | Macau

The Third International Workshop on Services in Distributed and Networked Environments (SDNE'96) builds on the success of the First and Second International Workshops on Services in Distributed and Networked Environments (SDNE'94, Prague, Czech Republic; SDNE'95, Whistler, British Columbia, Canada). The international flavour of the workshop reflects the scope and diversity of worldwide internetworking. Past SDNE workshops have had representation from North and South America, Europe, Australia, Asia, and the Middle East.

URL: http://www.citi.umich.edu/sdne.html

International Conference on Intelligent Information Management Systems

June 5-7, '96 | Washington D.C., USA

Information technology drives much of today's research and development. Society's need for information will continue its critical role well into the next century. This conference seeks to stimulate dialogue in both the academic and industrial communities regarding the fundamental research and development of intelligent information technology, its potential application to manufacturing, multimedia and hypermedia systems. As a result, the conference will have an impact on future directions of the information technology strategies in education and technology transfer.

URL:http://www.mankato.msus.edu/dept/comsci/iims/Welcome.html

HPCS '96

June 5-7, '96 | Ottawa, Canada

The 10th Annual International Conference on High Performance Computers will deal with new developments in this area, especially from an industrial perspective. The Conference is also planning to have a session on high performance computing in Eastern Europe, one on metacentres, and one on high speed fibreoptic networks.

URL: http://www.ieee.ca/supercan/hpcs96.html

On the Net Internet on the Gold Coast

- 192k ISDN link direct from Gold Coast to Melbourne, Australia's Internet hub
- Gold Coast dialup number, 64 phone lines with all 28.8Kbps modems and a no busy signal policy
- 7 free hours with each subscription
- Free personal homepage for subscribers
- SLIP/PPP access from $20.00 per month

Tel: (07) 5593 3535
Fax: (07) 5593 3557
Address: P.O. Box 151 Bond University, QLD 4229
Email: info@OntheNet.com.au
WWW: http://www.OntheNet.com.au

5CYBERCONF

June 6-9, '96 Madrid, Spain

5CYBERCONF is an international conference that addresses the social, political and cultural implications of cyberspace from a critical standpoint and encourages discussion between theoreticians and practitioners. Hosted for the first time in Europe, this fifth edition of CYBERCONF considers computer-human interface breakthroughs, our fascination and weariness with disobedient technology, the role of synthetic behaviour in virtual design, and the increasing importance of cross-cultural contributions to the electronic community.

URL: http://www.telefonica.es/fat/ecyb.html

The 8th Home Computer Show

June 7-10, '96 Sydney, Australia

Exhibits will cover computer hardware and software for home, family and business use. Products on display include including software for small business applications, education applications, entertainment programs and utility programs, electronic games consoles, hand held games consoles and associated software programs. Computer furniture and accessories. The show is aimed at children as well as mature users.

URL: http://www.ausexhibit.com.au/home/home_syd.htm

Second Annual Meeting on DNA-Based Computers

June 10, '96 Princeton, USA

This meeting will address areas that relate directly to computing with DNA including: algorithms, applications, techniques, architectures, practical obstacles to DNA based computers, proposed solutions to such obstacles, computational processes in vivo, and relevant ideas regarding biological evolution. Experimental results will also be reported.

Email: eric@research.nj.nec.com

Fourth Israeli Symposium on Theory of Computing and Systems

June 10-11 '96 Jerusalem, Israel

The Israeli Symposium on the Theory of Computing and Systems (ISTCS) intends to encourage interaction among researchers active in the theoretical aspects of diverse fields such as: algorithms and data structures, coding theory, complexity theory, computability and automata, computational biology, computational geometry, computer communication, computer vision, cryptography and data security, databases, data compression, distributed and parallel computing, foundations of compiler technology and information retrieval.

URL: http://www.cs.rice.edu/~vardi/istcs/istcs96.call/istcs96.html

Free 1800 Tech Support

Netcomm M34F V.34 $540.00
Netcomm 288D V.34 $720.00

HURRY
While stocks last !!!

Corel Internet mania $45.00
- 8 Internet Utilities

Free Corel Internet Mania

Banksia V.34 MyFast $525.00
Banksia 14.4 MyModem $320.00

Netscape Nav 2.0 win $125.00

Netcomm Enternet kit $47.00
- up to 12 hrs free access time !

Contal Information Technolgy Pty Ltd

Tel: (07) 3210 0706

Other modems please call. Delivery $10.00 Aust Wide. All products are subject to availability.

mailbox@contal.com.au

6th World Congress of Electronic Commerce Users & EC World EXPO

June 10-12 '96 Vancouver, Canada

Areas of particular focus include supply-chain management, streamlining government, expanding international trade, enabling tools for small and medium- sized business, direct-to-consumer services and e-marketing strategies, the Internet, value added networks and on-line services, secure electronic commerce, CALS and the extended enterprise, and managing human factors and change. Electronic commerce in the healthcare, tourism and financial services sectors will also be spotlighted.

URL: http://www.ecworld.org/Conferences/6th_World/menu.html

CSFW96

June 10-12 '96 County Kerry, Ireland

This workshop series brings together researchers in computer science to examine foundational issues in computer security. We are interested both in papers that describe new results in the theories of computer security and in papers and panels that explore open questions and raise fundamental concerns about existing theories. The proceedings are published by the IEEE Computer Society and will be available at the workshop. Selected papers will be invited for submission to the Journal of Computer Security.

URL: http://www.csl.sri.com/ieee-csfw/csfw.html

Ninth International Conference on EDI-IOS

June 10-12 '96 Bled, Slovenia

This conference has attracted speakers and delegates from business, government, information technology providers and universities and is the major venue for researchers working in any aspect of Electronic Commerce. There will be a variety of key-note speakers from industry and academia, including Professor Niels Bjorn-Andersen from the Copenhagen Business School, Professor Milt Jenkins from the University of Baltimore and a representative from Lotus Development Corporation.

URL: http://ecom.fovref.uni-mb.si/

IEEE Second International Conference on Algorithms and Architectures for Parallel Processing

June 11-13 '96 Singapore

ICA3PP aims to establish itself as a high-quality international forum for discussion in the areas of parallel processing, distributed computing, and other related high-performance topics. It will therefore be of interest to scientists, researchers, engineers, and practitioners. Typical topics of interest are: parallel architectures and systems, parallel algorithms, parallel programming languages, parallel programming environments and debugging, distributed operating systems, resource management, scheduling and workload management, performance evaluation, parallel I/O systems and interconnection networks.

URL: http://www.iscs.nus.sg/conferences/ica3pp

AusWeb96

7-9 JULY
Gold Coast
AUSTRALIA

The Premier Australian World Wide Web Conference in 1996

Conrad Jupiters - Gold Coast - Queensland

Keynote speakers, pre conference workshops, paper presentations, poster sessions and conference exhibition of the latest Web products and service. Sponsorship and exhibition opportunities also available. **Full details at URL http://www.scu.edu.au/ausweb96**

Norsearch Conference Services
Phone: (066) 203932
Fax: (066) 22 1954

Email: ausweb96@scu.edu.au
AusWeb95 http://www.scu.edu.au/virtual_edition

Southern Cross University

SCU142

Internet Expo, Web World and EMail World

June 12-14 '96 Chicago, USA

EMail World & Internet Expo is the first and only event to focus on the entire Internet, the World Wide Web, EMail and other multimedia-enabled applications, network management, collaborative computing and electronic commerce. It has been designed to provide you with the background and new developments that you need to navigate your way through this new field of working together. Featuring nine comprehensive conferences and over 100 managerial and technical sessions, EMail World & Internet Expo's program explores the problems, solutions and latest product advances that you must master to remain at the competitive cutting edge of these technologies. All classrooms are "Internet Live" allowing you to experience the power first-hand and learn how to apply it to your own business strategies. Every session features the highest rated experts in the industry and every talk is geared to meet the needs of companies who truly have a strategic interest in the Internet, the Web and electronic messaging.

URL: http://www.dciexpo.com/internet/

1st Symposium on Networked Learner Support

June 17-18 '96 Sheffield, England

This symposium at the University of Sheffield will address the need to establish NLS as a new role within higher education, and to develop effective NLS strategies. raise issues. A key feature of the Symposium is its recognition of NLS as a collaborative activity within and between institutions, cutting across departments such as library and computing services, teaching/learning support, staff development and academic departments.

URL: http://www.shef.ac.uk/~np/nlssym.html

Multimedia in Health Science Education

June 19-23 '96 Copenhagen, Denmark

The aim of the conference and workshop is to expand the interest in - and use of - interactive information technology in health science education. The Slice of Life Workshop is held annually and all previous workshops have been held in USA or Canada. The scope of the conference is to discuss and demonstrate all aspects of using interactive multimedia technology in health science education.

URL: http://linux.odont.ku.dk/mhse/

Second International IEEE Workshop on Systems Management

June 19-21 '96 Toronto, Canada

The First Workshop on Distributed Systems Management was held in 1993. Since then, there has been a great deal of activity in the systems management field. It has become clear that there needs to be more focus on application management. This Second Workshop brings together researchers and developers working on problems in application management, and technical experts who must deal with management of large, complex, distributed computing environments.

URL: http://www.csd.uwo.ca/conf/mgmt/

GET NET
low cost connection

Global Enterprise Trading

http://www.getnet.com.au
getnet@getnet.com.au

Professional Internet Advertising

SUPER DEALS FOR BUSINESS & NEW USERS

Advertising, Consulting, Trading, Hardware, Software, Networks

RealTime Location: Office 6, 27 Belgrave St. Manly NSW 2095

Ph: 99774400
Fax: 99775964
Call Garry Pickford
Mobile: 0412436122

alt.gothic

To outsiders, Gothics may appear to be nothing more than people who dress strangely and listen to macabre music. Lurk on this alternative newsgroup for an alternative culture and you will understand the mentality behind this movement. Unlike so many music fans or fashion enthusiasts, Gothic culture is steeped in historic traditions and carries a fair amount of intellectual clout in the way it embraces literature, the arts and an outlook on the world. The surfer with absolutely no interest in modern culture will find nothing of interest here, but the group is an excellent way for outsiders to get inside the Gothic mindset. The wired Gothics who inhabit this forum seem quite open in their discussions and not unpleasant to spectators as they share their thoughts on the artists they prefer, the way they interact with their non-Gothic friends and the disadvantages of wearing complicated clothing when trying to walk down a busy street. Music is still the most outwardly visible component of Gothic culture, and comments on artists and albums that you'll have trouble finding outside of an independent record shop permeate the traffic. Some Gothics have had problems with parents who are unable to accept their unconventional lifestyles, but most find that a sympathetic mother of a Gothic teenager will even go to the extent of buying only black clothes for them. Interspersed with some highly literate discussions on philosophy and life in general, you will still find worthless messages. The odd minor flame war or a Gothic wannabe's attempt to be profound appear regularly, but the group flows on around them. Articulate, interesting and provocative, this newsgroup suggests that the Gothic movement is far less removed from the rest of the world that their clothes and make-up would lead some of us to believe.

'My parents recently had a discussion about which hair colour they liked best..my dad liked the green, my mom liked the purple...they both like black with purple bangs...'

'Dad played Frank Zappa and read a lot of Dr. Seuss for me when I was a wee one...see how I turned out?'

'I think any song by either The Smiths or Morrissey could be considered a theme song for me...I think they've managed to write about almost every single feeling I've ever had...'

alt.mythology

Any civilisation that can trace its origins back by more than a millennium is a rich source of stories and history that often blend fact and fiction into a complex saga of heroes and gods. This newsgroup is a lively forum for exploring any slice of human culture where records of these ancient tales still exists. Stepping away from the familiar Greco-Roman stories, lurkers explore some of the little-known stories and traditions of cultures such as Japan, which aren't as familiar to the predominantly Western denizens of this group. Pose a question about a situation or a saga to the highly educated (and highly opinionated) experts here, and you can expect at least two answers to appear. Just don't expect them to be in agreement! Variations on tales and myths are common, as many stories have mutated into different forms and versions over the centuries. The group will fastidiously trace and recount the origins of practically any character in lengthy threads, which will entertain mythology enthusiasts but bore anyone with only a superficial interest. Similarly, you won't want to join the threads dealing with hard-to-find books on the history of unicorns or demons unless you're a devotee. Modern customs, rituals and even superstitions can often be traced back to specific episodes from mythology, although the original significance of an act is generally lost. Some grumblings have emerged recently over the way some threads become sidetracked into discussions on philosophy and religion that have little to do with examining ancient records in a purely mythological context, but the fact that today's myth was yesterday's faith suggests that such talk should be expected.

'Sisyphus was the stoolie who went to Asopus, a river god, informing on Zeus and Asopus's daughter, Aegina. Zeus ordered Hades to grab Sisyphus and take him below, but Sisyphus trapped Hades until Ares came and broke Hades free.'

'The main goddess of death is Hel, but also Oden is a god of death, as well as Freja. Then we have the whole series of valkyries and governors of fate (the Norns and the fylgjas) which mainly are female in nature.'

'...the literary Arthur is an inspiring tale, because it demonstrates that the very struggle to create something better is itself ennobling.'

Welcome to another year of surfing the Net for the most interesting and controversial newsgroups we can find. We're constantly updating our headings and topics to give you a grand tour of what Usenet can offer.

Current Events and Politics

talk.politics.drugs

As nations and regional wars disappear and reform, it seems that the abuse of drugs remains the world's most inertial social issue. Years of legislation and proposals for decriminalisation have yet to resolve a major international problem, and the tone on this newsgroup suggests that there will be little change in the foreseeable future. Drug use is a multifaceted issue that combines medicine with psychology, politics and sociology, and a single posting here will combine all of them. Debates tend to become very heated, but the lurkers have generally managed to avoid turning their arguments into flame wars. The American origins of most of the traffic certainly affects the scope of discussions, which spill into general political topics such as libertarianism and human rights. The fact that this nation arguably suffers more from drug abuse than any other also adds sting to the debate. Common threads that appear include the introduction of compulsory drug testing by some employers, itself a gateway to talk of privacy. Comparisons between modern America's atttitudes to narcotics and its outlawing of alcohol in the prohibition days leads to arguments for the legalisation of 'soft' drugs that seem to endlessly regenerate the same points. Naturally, the group is quite sceptical of the US Government's highly publicised 'War on Drugs' that seems to have achieved nothing at all. Many participants on the group are either current or former users of marijuana, but few seem to openly confess to using anything stronger. Talk of Crack sometimes surfaces, but few are prepared to challenge its harmful effects. The group is understandably suspicious that their messages are monitored by law enforcement authorities, but this doesn't deter some posters from openly discussing their personal marijuana crops and asking for advice on cultivation methods!

'How many dirty cops are there making a nice little earner from backhanders off drug dealers? They always say they look after their own:)'

'Smoking marijuana, like any other activity, is psychologically addictive if the activity brings you pleasure. I was a habitual user for 2 years and spent a large amount of money on the best.'

'...if these people who committed the burglaries "on drugs" did not have access to the drugs at the time they committed the burglaries, would they still have committed the burglaries?

news.admin.censorship

Newsgroupies doesn't normally direct its readers to newsgroups that are riddled with crosspostings, flames and general rubbish, but this highly active forum is an exception. We won't pretend that the ratio of silly postings isn't unacceptably high, but once you've found a thread that's worth reading, you can surf through it and ignore everything else. This newsgroup is a great way to meet some of the Internet's most notorious denizens such as the irrepressible Stephen Boursy, whose opinions on Internet censorship and free speech appear all across Usenet. American Internet author Daniel Dern also haunts the group, and his arguments with Boursy are legendary. The group is filled with complaints about service providers who have terminated the accounts of irresponsible users, and some of the discussions that take place could easily be used as evidence in defamation suits. Newbies could easily be confused by the periodic references to 'The Cabal' on the group, which is a semi-serious way of describing a handful of individuals who allegedly police and control the entire Internet. In reality, The Cabal is simply a joke that some of the Net's more paranoid users have taken seriously.

Topics to avoid in your browsings include ongoing threads dealing with drugs, Christianity and pornography. Some discussions manage to combine all three! Months after its passage through Congress, the infamous Communications Decency Act continues to attract spirited and quite well-informed debate, with some lurkers plotting methods of openly challenging the bill with the flagrant distribution of prohibited content. Spamming is another popular topic, but on this newsgroup, many posters are ready to defend the practice! Rough, noisy and controversial, this group reveals the Internet in its full spectrum of viewpoints.

'That's right folks, by providing selected "passages" from The Holy Bible you can operate your own "porn server", flaunt the CDA and prove that net censorship will never work...'

'When a "higher authority", be it government or AOL, decides I can't express my earnest feelings to another person privately, something is wrong, eh?'

'Far too many parents take the easy way out and "let big brother" decide how their children will be raised and that's wrong.'

misc.health.aids

Newsgroupies expected that a group dealing with the most controversial medical issue of our time would be a brawling flame pit, and was a little wary of recommending it until our experiences revealed a very different picture. We expect that this unmoderated newsgroup has suffered more than its share of unwanted postings and silly arguments in the past, but misc.health.aids is currently a very interesting and worthwhile place to be. Far from being a just a support group for victims of the disease, this group is a forum for looking at the impact that AIDS has had on so many parts of modern life, including politics and science. Some of the most frequent posters to this group are medical doctors who are actively involved in treating HIV-infected patients, and their knowledge of the latest results from laboratories attempting to fight the disease is impressive. When two qualified practitioners begin to attack each other online, you'll gain an understanding of how the experts themselves cannot agree on the best way to treat a patient. Highly deluded individuals claiming to possess means of curing the disease do appear regularly, but are normally shouted down with a few flames. A particular concern to both doctors and victims is the emergence of new strains of HIV in Thailand and India that are apparently even more infectious than the strains currently found in the West, and the rampant spread of HIV in the developing world, where 90% of infections currently occur. A frequently mentioned topic is the quest to find a vaccine for HIV, which the medical community regards as the only effective way to stop the virus on a global scale. If the reliable opinions expressed here are any guide, no vaccine capable of preventing each of the rapidly mutating strains of the disease is likely to appear before the year 2002.

'Glaxo-Wellcome, the makers of the failed drug AZT, didn't care very much that people were taking AZT as a mono-therapy for many years. They were making a killing.'

'The 5-year-old Housing Works, which provides housing and support services for people with AIDS, has about $15 million in government construction contracts.'

'...there is NO EVIDENCE that injection drug use causes, in HIV-seronegative people, the specific immunologic profile of AIDS.'

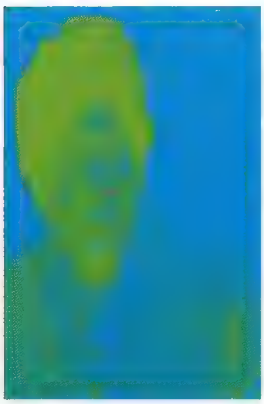
soc.history.living

It seems a little strange to be talking about conducting an existence that's firmly rooted in the distant past on such a modern medium as the Internet, but this newsgroup shows how easily a modern person can bridge the gap. How much has human nature itself really changed across the centuries, anyway? At its most crude form, history is brought to life in a modern setting by scores of people who enjoy staging mock battles. Who would expect the stereotypically meek and nerdy Net community to turn into weekend warriors? Read of their experiences in struggling under heavy armour and swords, as mock combat enthusiasts proudly discuss their battle wounds. As with any sport, battles are conducted according to a set of regulations, but this often fails to keep the players from being injured. What else can one expect from a war? Clubs meet regularly around the world for these functions, but Newsgroupies couldn't find any online evidence of Viking hordes terrorising the community down under! Yet the ways of the past can still remain alive without resorting to theatre combat. Fans of the group proudly recount stories of less violent arts and trades that they have managed to practice, such as dance and music from the medieval period. Lurkers proudly boast of owning weapons or uniforms from the eighteenth century, and one Web site promoted on the group even offered ancient text fonts. There's a fair amount of discussion of history itself, which demonstrates the fact that the past itself is subject to change as interpretations are altered. Some participants mutter about the corrupting influence that games such as Dungeons and Dragons have had on people's perceptions of the real days of swords and castles, but any form of interest in the past is generally taken as a good sign.

'...he saw a local man light a fire for cooking trout he'd just caught in a hill loch (lake), using embers he'd carried in his sporran (i.e. pouch). He obviously didn't believe in matches!'

'There are times when, even as a fellow Viking, you have to say "What a prat!" and simply run the chap through with your sword.'

'I once saw one of our players decked out in no less than 14 separate weapons - a veritable hedgehog of DOOM - you could bump into him and eviscerate yourself!'



rec.arts.sf.science

The leap of the USS Enterprise into warp speed may have entertained millions, but the leap of faith it requires for a devotee of the hard sciences is too large at the present. The very title 'science fiction' itself seems like a contradiction in terms, but writing convincing SF that will stand up to the scrutiny of a well-educated readership is probably the greatest challenge in literature today. Don't enter this group expecting to scrutinise Star Wars or Star Trek. These shows, and countless others, simply evaporated into discredibility as soon as they appeared. What truly interests the well-read participants in this newsgroup are the masters of literary SF who remain relatively unknown to the general public. Authors like Isaac Asimov, whose career spanned science fact as well as fiction, Larry Niven and Arthur C. Clarke are toasted and studied. Nitpicking to the last detail, authors with science degrees who think their cases are watertight will find their stories dissected with embarrassing revelations. Pity the author of the much celebrated Ringworld, whose magnificent space station of the imagination would never have actually survived the events described in the novel! Considering the way that serious SF tends to favour the physical sciences for its themes, Netpicking was surprised to see that so many of the postings here dealt with biological questions. Just how would an insectoid alien race as large as humans evolve? How do social relationships in a postindustrial world compare to an ancient one? Serious SF tends to draw much of its inspiration from the cutting edge of science itself, which means that threads dealing with black holes, antimatter and other exotica from cosmology pop up everywhere. Taking the process in reverse, some lurkers use the group as a means of constructing believable scenarios for their own SF stories, testing their ideas before they hit their word processors. This newsgroup makes fascinating reading for anyone seeking to explore science fiction at its best.

'Chitin isn't very hard... It's like leather really. Probably a large beetle would have to evolve something better...'

'There was an Asimov essay about all animals living for about the same number of heartbeats--except humans, who live for about four times as many.'

'Even in space battles, kinetic kill still looks good for some situations. Beam weapons are for when you *need* to deliver nastiness at a distance *now*.'

rec.games.computer.doom.misc

Will all this talk never end? Newsgroupies is as aware as anyone of how popular this computer game is, but things have clearly gone too far. Doom is no longer an amusement. It's a way of life for some people who seem to do little else with their computers. Don't search this group for any discussions of the potentially negative impact this ultra-violent video game could have on impressionable young minds. You'll be verbally blown to smithereens for even raising the idea! This is the ultimate online meeting place for players with even the slightest interest in the game. Read the first dozen postings and you will quickly see that there is more to Doom than simply pointing your weapons and firing. A whole discipline of study has emerged as boffins try to uncover as many cheat codes for the game as they can. Doom's manufacturers, id software, have certainly done their best to keep everyone's attention as hints and add-ons emerge regularly. Giving yourself unlimited lives or ammunition may seem contrary to the spirit of the game, but serious devotees treat Doom more as a puzzle than as a fair fight. Look out for pointers to Doom Web and FTP sites for patches that will allow you to change the enemies into renditions of Bill Clinton or other personalities. As one of the earliest networked computer games to achieve heavy popularity, much of the talk about Doom here centres around ways of meeting up with your fellow warriors on the Net, or adapting the game to an office LAN when your boss isn't around. Look out for frequent challenges to 'death matches', the term used to describe these personalised duels. Traffic tends to be quite heavy, but almost every posting is worthwhile. For a serious player, this group could be as addictive as the game itself.

'One special cheat code to display your opponent(s) in deathmatch was discovered. To activate, in Map Mode keep Alt down and type `iddt' four times.'

'An alternative way to play multiplayer Doom by modem is to try local game servers. A list of one type of these systems can be found at ftp://gcomm.com/library/isvsir/systems.txt.'

'It was also shown in a scene in the movie "Sudden Death", where the bad-guy computer expert was playing it. And I think it was in "Friends" and "E.R." as well, although I am not sure. Either the game is popular enough to impact Hollywood (which it might have been) or id is paying for a little product placement.'

rec.sport.sumo

Sumo wrestling isn't exactly Australia's most popular form of recreation, but in an era where cultures flow around the world at lightspeed, our sports crazy nation could tune in soon along with the rest of the world. A full understanding of the Japanese language would certainly help in trying to follow all the terms and phrases that appear on the group, but you'll quickly find pointers to online vocabularies of words specific to sumo. The official term for a wrestler is 'rikishi'. It's pretty hard to find sumo wrestling broadcast outside of North America, Asia and Europe, but the Web sites mentioned in this group will still give you a taste of the action. Sumo appears as nothing more than a brute force-style wrestle to the uninitiated, but the commentaries posted by these dedicated fans will quickly prove otherwise. It's entirely possible for a smaller rikishi to toss another one twice his own weight out of the dohyo with the right blend of skill and timing. Surprisingly, almost nobody posting to this newsgroup is actually Japanese, and traffic appears to mainly come from American and European fans. Some of them have even tried out the sport themselves at local tournaments, and say that the only way to appreciate how difficult it is to master the sport is to try it yourself! The result is not only embarrassing but quite painful, especially when your opponent dumps you like a sack. Traffic on the group is rather light, and few messages are unrelated to sumo. This hasn't stopped some lurkers from calling for the group to be moderated, but this is another pleasant place for dedicated sports fans to lurk.

'When asked what technique he would use to beat Konishiki, he said "tsuridashi" (pick him up by the belt and carry him out of the ring). I almost died laughing...'

'There are no set "prerequisites" to be reach yokozuna status. Some previous yokozuna had never even won a basho.'

'Terao and some of the other fighters who prefer the lean, powerhouse approach of Chiyonofuji weigh less than 300 lbs. I believe Terao is around 250 lbs.'

rec.puzzles

Don't bother lurking on this newsgroup if all you want is a cheap laugh or something to read before you go to bed. This is a forum for posing and solving brain teasers of all forms, and it's constantly regenerated with new clues and challenges to tempt an active mind. It's refreshing to see so few flames circulating here, and overall traffic levels are at a comfortably average level for a newsgroup. The puzzles posted to this group cover a broad range of categories, from simple riddles to brain teasing problems requiring logic, deduction and mathematics. Occasionally, someone will post a puzzle that turns out to have a silly or non-deducible answer, but such a message is likely to see a user flamed away from the group! The best way to explore the group is to ignore any posting that's a follow-up to another. Go to an original message, read the puzzle, and only turn to the follow-up postings when you're ready to see the answer revealed. Sometimes, these messages will be nothing more than requests from other lurkers for the answer to a particularly difficult conundrum, but it's considered polite to post a 'spoiler warning' at the top of a posting that gives away anything important. The more complex mathematical puzzles can generate lengthy and somewhat boring threads dealing with proofs of equations or the use of formulas, and once the answer to a puzzle has been revealed, there is normally little point in continuing to read about it here. Some puzzles depend on geometric diagrams or arrangements of counters that don't translate well to an ASCII format, so look out for pointers to Web sites that describe some of these puzzles. Card tricks are fairly common here, as are puzzles involving words and letters in jumbled orders. This newsgroup will certainly demand your complete attention, but it's nice to see a newsgroup that's so full of interesting material.

'Given a bridge hand, or any random set of 13 cards taken from a standard deck. You are given the information that the hand contains at least one ace. Of all hands for which you are given that info, a certain fraction contain two or more aces.'

'The general form of the game is to put N white poker chips in a row next to N red poker chips (or markers of your choice). Now, always moving two adjacent markers together (ie, put your forefinger and middle finger on two adjacent markers, slide them out of the line...'

'In a certain town Z, all of the streets are two-way. On one day, some of the streets were converted to one-way in such a manner that travel was still possible from every building in the city to every other...'

sci.bio-food-science

This newsgroup is a prime example of the Internet serving its original purpose of bringing researchers and academics together. Don't worry if some of the postings seem a little incomprehensible. By the standards of most scientifically oriented newsgroups, this one is quite open to the layperson. In keeping with a scientific forum that doesn't deal with something as controversial as evolution, this group holds a degree of restraint that could lead you to assume that a strict moderation policy was in force. In reality, this is an open forum where self-regulation works effectively, albeit at the price of alienating the totally uninitiated and boring any spectators who aren't enthusiastic about the topic. Sometimes, endless lists of experimental results or references to reports fails to even excite the scientists themselves! Food science is an area of research that affects us all, and gross mistakes can even result in fatalities. Much of the talk on this newsgroup is understandably concerned with methods of preventing food contamination, and you will encounter interesting threads dealing with sterilisation and bacteria. Fortunately, none of this will deter you from sitting down to dinner, and the lurkers here are too well-informed to sensationalise the topic. The newsgroup sports an excellent FAQ which is posted to the group regularly in three parts. Skip over the definitions of organomolecules and enjoy the nutritional advice in the final part, which assures you that salt and fat are essential to a balanced diet in the right quantities. Be alert to the fact that many of the quoted standards for nutrition levels or preparation methods only apply in Europe or the USA, and laws can differ by significant levels even between different states. Australian participation on this newsgroup is very low, but Newsgroupies did encounter references to food technology research centres at local universities. The group provides an interesting and rather reassuring insight into the food processing industry as well as the science behind it.

'I believe colds are formed from eating particular foods which are mucus-forming and drinking in particular cows milk which does much the same.'

'Fridges slow down and freezers stop the increase in most common bacteria, but can't kill them. So we need to stop them spreading from food to food.'

'Low density lipoproteins (LDL) have been implicated in atherosclerosis. LDL in addition to being a major carrier of cholesterol in the bloodstream is also a major carrier of vitamin E.'

sci.chem.coatings

A most peculiar scientific newsgroup where pure researchers, engineers and salesmen for scientific companies meet in a very open fashion, this newsgroup is dedicated to the science of coating materials to do anything from protect them from corrosion to blocking their surfaces from infrared light. Ordinary paint is the most common chemical coating most of us use, but even these are carefully designed combinations of several different compounds that add different properties to the mixture. Moving into more complex arenas of engineering, coatings only several atomic layers thick are routinely applied to optical materials or electronic components. The most common problem under discussion when Newsgroupies dropped in was the corrosion of metal parts during shipping, which one lurker suggested solving with the use of a special anti-rust paper coating! Some lurkers are working on academic projects, and even take part in tutorials conducted across the Web. Look out for pointers to these courses, and other sites dealing with materials treatment. This newsgroup is easily the most commercial scientific newsgroup Newsgroupies has ever reviewed, and sales representatives of chemical companies actively monitor the group. Product announcements regularly appear in response to questions posed by users seeking help, a thinly veiled form of advertising that probably wouldn't be tolerated in more general newsgroups. Here, such comments rarely generate any objections, as the chemical industry seems to be tightly knit and strongly interdependent. Some of the more interesting postings come from artists who work with metals and chemical coatings to produce vivid sculptures, and actively discuss the results they are trying to achieve. Traffic tends to be comfortably low, and there is little in the way of flames or silly messages, apart from the frequent commercial endorsements.

'Gold is a very good reflector of infrared, to the extent that a layer thin enough to be transparent to visible light will still reflect most mid- and near-infrared radiation (thus its use in the space program as a coating for the visors on helmets).'

'Conductive opolymers (organic metals) like our ORMECON polyaniline can be used for electrochromic applications as well.'

'I just always assumed that teflon had to be polymerised onto the surface that you wanted to contain the teflon.'

Australian JAVA Users Group

JAVA HAS TAKEN OFF MORE RAPIDLY THAN PRACTICALLY ANY OTHER LANGUAGE IN THE HISTORY OF COMPUTING, BUT THE DEMAND FOR JAVA PRODUCTS IS CHALLENGING THE CAPABILITY OF THE IT INDUSTRY TO DELIVER.

Seeking to bridge the gap and help speed the introduction of Java into the online community is the Australian Java Users Group (AJUG), a nonprofit body that's advancing the state of the industry across the nation. AJUG was founded last year by Dr Adrian Vanzyl from the School of Medical Informatics at Monash University in Victoria (see *Doctor Internet*, Volume 1, Issue 6).

Branches of AJUG have been established in every state capital on Australia's east coast.

Dr Adrian Vanzyl

'The School examines the ways we can apply IT to medicine', said Dr Vanzyl in an interview with Internet Australasia in Sydney. 'When Java appeared last year, we instantly recognised it as a way of sending multimedia content with intelligence out over distributed networks. Our contacts at Sun Microsystems (creators of Java) in Melbourne were interested in promoting it as well, and invited me to help run some Java workshops around Australia last year. Several hundred people attended, and one result of these workshops was the foundation of the Australian Java Users Group.' Every workshop attendee automatically became a member of AJUG, but the Group has grown steadily in the meantime. AJUG has now been officially incorporated, and is receiving financial support from sponsors such as Monash University, Sun Microsystems and InfoWEB, a commercial Internet development group. 'We're at the top of the list of international Java user groups on Sun's own list, and as a result of this we receive dozens of inquiries every week.'

AJUG also supports a mailing list that non-members can use to access information and advice about this language. Visit AJUG on the Web at **http://sunsite. anu.edu.au/ajug/** for an introduction to Java itself, and pointers to how a budding Net developer can add a little spice to a Web page with this dynamic language. Users can explore Java utilities and documentation. The site also has links to Australian-made Java software and local Java developers, along with links to major international groups.

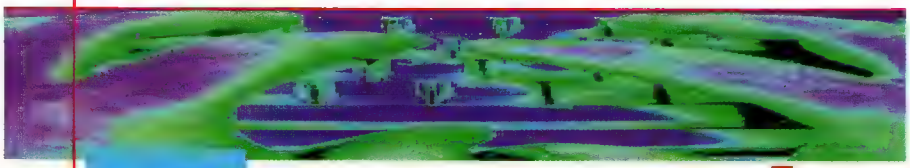
Branches of AJUG have been established in every state capital on Australia's east coast. 'We're still waiting for Adelaide to come online.' The Group holds meetings every month. 'They're generally held in the evenings as open forums. Someone gives a presentation for an hour, then we spend an hour talking amongst ourselves.' Vanzyl's own local chapter in Melbourne attracts around 60 people to each meeting. 'Everyone then heads for pizza afterwards. The experience level ranges from really serious programmers to Web authors

who don't understand programming at all but want to experiment with Java.'

According to Dr Vanzyl, awareness of how to use Java in Australia began in our universities, where people could explore the technology without any need to produce a specific commercial result. The Group has now begun to accumulate programmers from object-oriented development companies who are honing their skills for genuine contracts. 'You cannot set up advanced user interfaces with anything else but Java', he explains. 'Java is an excellent way of adding an element of interactivity to a Web page. People ask me about the differences between Java and VRML or Shockwave. The answer is that Java can do everything these do, but not as easily. A customised tool for video, audio or 3D is always going to perform better. Java excels where you need intelligence or programmable control over what happens. If you want to include a mortgage calculator in a page, or an intelligent form for an insurance application, Java is ideal.'

Sun Microsystems retains ownership of Java, but has been fairly liberal in releasing it to the online community. 'Anyone is free to use it and write applications for it. There is no licensing fee. You can download and use any of the software at Sun's own Web site for free. The only time charging enters the picture is if you want to write your own Java compiler, and you must licence it from Sun. This is done to ensure that anything advertising itself as a Java compiler or interpreter is really capable of doing the job.' One result of this is the controversy over different enhancements that has plagued the evolution of HTML is unlikely to be repeated. For the moment, the popularity of Netscape Navigator and other browsers that support Java has made it the most significant development the Net has experienced in recent times. ¶

According to Dr Vanzyl, awareness of how to use Java in Australia began in our universities, where people could explore the technology without any need to produce a specific commercial result...



E-pals

HERE IS YOUR CHANCE TO MEET NEW EMAIL FRIENDS, WHATEVER YOUR INTERESTS OR HOBBIES MAY BE. THE INTERNET IS MOST LIKELY THE BEST PLACE TO FIND SOMEONE TO SHARE YOUR DREAMS AND IDEAS. SEND YOUR EMAIL TO: **E-PALS@INTERAUS.NET**

ASTROLOGY AND SELF IMPROVEMENT:

I wish to chat with English speaking persons who are interested in the above topics.

Julie Chardon julie@senet.au

HI,

I am very interested in family history and genealogy in general... I have a database of 2840 names (keynotes are: McPherson, Shore, Oliver, Lucas, Murphy, Law, Groves, Durbridge, etc.)

Anyone interested?

Regards Leo McPherson

Contact me at ***leomac@midcoast.com.au***

Can you get me some pals over in the usa.? TO AIR IS HUMAN, BUT TO FLY IS DIVINE.

abate6@checlaba.scu.edu.au

HELLO

My name is Leigh Iszlaub I am 25 years old my hobbies are -: Computers, music, reading,writing stories,tracing my family history,poetry and bird watching also art. Thanks

My email address is

liszlaub @cin.gov.au,

so please contact me.

FINDING E-PALS ON THE NET

Our own E-Pals column appears in Australia, New Zealand and Singapore, but some of our readers have asked us how they can find E-Pals in an online environment. The newsgroup soc.penpals was created just for this purpose, and is one of the most established places on the Internet to find other people for correspondence. Browse through the postings on this newsgroup and see who's out there. If nobody in the descriptions you see matches your preferences, wait another week and see who else appears. You can always post your own name and details to the group, but be warned that you can receive more replies than you probably bargained for! The Net also carries newsgroups with the word 'personals' in their titles, but most of these groups are sexually-oriented and are unsuitable for children.

Whenever you send details about yourself onto the Net, use a bit of caution. There is arguably no need for you to send your telephone number or address to your E-Pal at first. If they have your email address, they can already get in touch with you. The Internet isn't as dangerous as some media sources would like you to believe, but individuals from the simple scam artist to people with more sinister intentions can certainly be found out there. Ignore any 'get rich quick' schemes that you receive, and look out for the E-Pal whose questions suddenly become very intrusive. Whatever you do, don't panic if you receive a message that seems to be less than sincere. Your best defence is simply to ignore it, and you are unlikely to receive any more. Parents should also be wary of introducing E-Pals to their children, especially if the person is in the same country or city.

Finally, remember that all you will probably know about a person is what you receive by email. People have been known to change their names, their identities and even their sex in order to attract attention online!

Get your own netpickings in to netpick@interaus.net. Our bony columnist is waiting to hear from you!

POLITICIANS HAVE CERTAINLY BEEN OUT OF FAVOUR IN BOTH AUSTRALIA AND THE USA IN RECENT MONTHS, BUT THE CREATORS OF *SURFWATCH* HAVE PROBABLY GONE A LITTLE TOO FAR.

This legendary software package blocks Internet access to certain Web sites that are deemed offensive as a means of protecting children from pornography and other Net nasties. Its makers regularly update their list of restricted sites in order to keep pace with the growth of the Net, and one revision took the bold step of censoring access to the White House itself! This site at **http://www.whitehouse.gov/** is one of the most popular on the Net, attracting millions of visitors to its relatively harmless content, but an automatic scanning system judged otherwise.

The problem arose when a page on a virtual tour of the White House was discovered to contain the word 'couples' (a reference to the marital status of the President), a term that Surfwatch normally associates with less wholesome references, and the site instantly became taboo. Surfwatch have since reversed their decision, but one can only wonder if there could be other reasons for keeping Washington away from young, impressionable minds. View the page in question for yourself at **http://www.whitehouse.gov/WH/kids/html/ couples.html**, but don't let your kids see you!

Continuing with the confessions of disgruntled help desk staff, we encountered a story from a user who was grossly offended when his computer told him he was "bad and an invalid". The help desk explained that the computer's "bad command" and "invalid" responses weren't intended as a personal remark!

A technical support person spent hours examining a personal computer that seemed to repeatedly delete files from floppy disks without warning. After several tests the disk drive was declared to be in working order, and no cause of the problem could be found. Shortly before the technician left, the user carefully removed a disk from the machine and attached it to the wall of an office cubicle with a magnet! At least the mistake is easier to explain away than the user who jammed a machine by trying to insert another disk for a software application...without removing the original disk beforehand!

Risking our reputation with our readers in technical circles, here's a joke we found. 'An engineer and a computer scientist are driving through the desert when their car suddenly breaks down. 'The engine must have overheated', said the engineer. 'All we have to do is wait for it to cool.' The computer scientist sits for a moment and then remarks, 'I've got a better idea. Let's just get out, then get back in again!' Think about your own PC for a moment if you don't get it!

Just when we thought we would never see another joke made about Windows 95, Microsoft themselves have come to the rescue. Netpicking spotted a report that, in the blurb for one of their own advertisements, Microsoft informs us that the world 'circles its sun in a perfect sweep that takes 24 hours, precisely'. Those of us who fear Bill Gates is trying to control both Heaven and Earth should take note of the 24-hour year he plans to introduce. Would this allow him to sell upgrades more frequently?

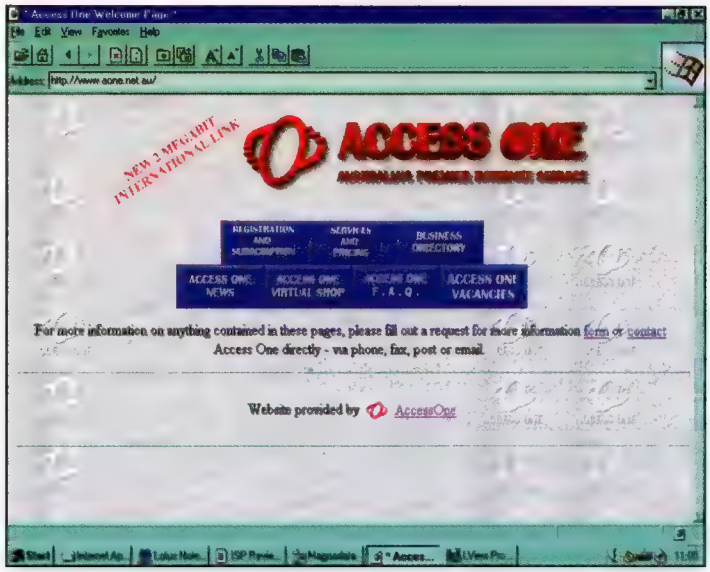
It's impossible for Netpicking to confirm this highly dubious story, but consider the possibility. 'A large company had just bought their first Macintosh. The machine suffered from a system crash, and popped up a window with a picture of a bomb on it. Management ordered the building evacuated!' A similarly mischievous programmer is known to have configured one program to do nothing more than laugh when the 'help' button is pushed!

Putting on our flameproof suits to protect us from the wrath of our Mac-dedicated readers, Netpicking hereby recounts a prayer to this platform from Usenet.

'The Mac is my shepherd
I shall not want
It makes me lie down in green pastures
And should be dumped in the shallow waters
It prepares an error before me
In the presence of PC users
And as I walk through the valley of the shadow of death
I will fear no evil, for my Mac is with me
Its 20 MB hard drive will comfort me
The keyboard is anointed with Coke
The keys become sticky and useless
Surely system crashes and permanent data loss will follow me
All the days of my life
And I will dwell in the house of the Mac forever...

ACCESS ONE AUSTRALIA'S

"Simply awesome"



Simply awesome.

In a recent special feature on the Internet which appeared in the November issue of Australian Personal Computer, Internet Providers were put to the test as their services were reviewed and compared by a group of 'power users'.

Access One network came out on top.

Access One was awarded the Australian Personal Computer's Editors Choice Award being described as simply awesome.

"Access One has the best Internet connection *APC* has ever used."

source: APC November 1995 Internet Special

- **Easy installation,**
- **Quick response times and**
- **Reduced packet loss**

are just some of the outstanding features of Access One.

Access One's installation can only be described as smooth, using preconfigured 16-bit Windows software linked with a dial-up account.

"..this provider (Access One) has performance and bandwidth to burn. It offers Internet access on a level previously unseen in Australia."

source: APC November 1995 Internet Special

PREMIERE INTERNET SERVICE

Specialising in corporate connections including ISDN, Access One's overseas transfer rates won't leave you in the cold either. Through a private 2Mbps link (4Mb from February 1996) to the MCI backbone in the US, Access One offers quick response times and reduced packet loss.

"..only one data packet went astray in 15 minutes of sound, where similar activity would average 10% to 30% loss on other systems."

source: APC November 1995 Internet Special

According to the Australian Personal Computer Service Providers comparison..

"...Access One is for you. Even if your usual connection is with another provider, it may be worth keeping an Access One account handy in case you have trouble reaching a vital overseas server."

source: APC November 1995 Internet Special

To add to the outstanding performance of this company as a leading internet service provider in Australia, Access One is now a Finalist in the Australian Personal Computer's Best Product of 1995 awards.

Local call access is available in all capital cities plus, Geelong, Traralgon, Wangaratta, Newcastle, Wollongong, Whyalla, Cairns, Townsville, Mackay, Rockhampton, Bundaberg, Sunshine Coast, Gold Coast, Toowoomba and coming to a centre near you!

Access One Price List (Country Registrations add $20 to Annual registration fees)

	Annual Registration	**Monthly Fee**	**Free Hours**	**Over-Time**
Time Only Account	—	—	—	$6:50
Flex Charge 1	$49	$9:95	3 (Per Month)	$5:00
Flex Charge 2	$49	$19:95	7 (Per Month)	$5:00
Flex Charge 3	$79	$38:00	7 (Per Week)	$6:00
Flex Charge 4	$499	—	7 (Per Week)	$6:00

Credit Cards required except for Flex Charge 4 Accounts
To Subscribe or for more information fill in this reply:

Access One Pty Ltd, 43 Malcolm Rd Braeside Vic Tel: 03-9587-1444
Fax: 03-9580-5581 E-mail: info@aone.net.au

Name:_____ Company:_____
Address :_____
City:_____ State:_____ PCode:_____
Tel No:_____ Fax No_____
Current Email Address :_____

For those wishing immediate registration please provide credit card details.
Bankcard/Mastercard/Visa/Amex/Dinners _____
Type of account required (see above price list) _____
Signature :_____ (Registration disk sent by return mail)

Time Traps

Internet Australasia receives many calls from new users who are just discovering the Internet, and find that mastering their connection to their service provider isn't always easy.

The most common problem users of dial-up accounts experience is trying to get on in the first place, when a request for a connection is turned away. Other users experience problems with connections that drop out periodically, which can be highly inconvenient when your FTP transfer of a massive file is almost complete! Yet in several cases we have personally encountered, users have accidentally found themselves in situations where their connection to their ISP has not been disconnected, even when they assumed that their online time was over. The result of leaving a connection open can not only be inconvenient: it can be highly expensive for the owner of the account. Several users have recounted horror stories of finding massive charges tallied on their monthly bills, which they simply didn't expect.

'It seems that the most vulnerable people at the advent of any new technology are probably the consumers of that technology', said IA Editor and Internet developer Kosta Nikas. 'They're the most likely ones to misunderstand it.'

It's tempting for a user to scream abuse at their service provider and attempt to frame them as charlatans, yet the problem is rarely the fault of the ISPs. Despite his views, Nikas does not believe that the ISP industry is guilty of deliberately trying to exploit its clientele. 'I don't think that the industry anticipated the problems that crept up on all of us.' In his view, consumers have become unwitting guinea pigs for the deployment of mass networking. 'The industry waits for the users to discover teething problems and report back to them.'

'Being Australia's largest ISP, we have more problems with our users than any other', said Michael Komoroski, General Manager for Marketing at Ozemail 'We try to deal with every problem that's raised, but there are always some people who will never be happy.'

Bob Hobart from ACS Link, an online service operated by the Australian Computer Society, notes that the phenomenon occurs generally throughout the ISP market. 'It's difficult for the ISPs to argue their case. On their equipment, they have a record of a login lasting several hours or days, and on the other, they have a client who swears they haven't touched it. In my experience in talking to ISPs, all the parties can do is sit down and try to resolve their dispute.' The situation is further complicated by the fact that there is currently no totally independent or impartial body to accurately judge such matters. Consumers in turn have frequently approached state and federal consumer bodies to protest cases of overbilling, but not all feel that this has provided an adequate way to resolve their dispute.

'We have had about three instances of people accidentally running up massive bills', said Sophie Desprez from AUSNet. 'In one instance, a family connected with the father paying the initial fee. Two days after the initial connection, he discovered that his son had forgotten to log out and disconnect the modem. The poor boy was in quite a lot of trouble, but there was nothing we could do about it.'

The attitude of providers may seem rather callous to some consumers, but the companies interviewed by *Internet Australasia* have firm reasons for dismissing most complaints. Their clients have consumed a resource that the providers themselves have paid for, and costs must be recovered. Clients who elect to place their accounts under their own control have little excuse for actions that can be traced solely to themselves. As Sean Howard from Ozemail once observed, 'The problem is analogous to somebody failing to hang up their phone at the end of a long-distance call, and then complaining about.'

When users leave their connections open and receive extended bills, Ozemail generally extends its clients with credit on an ex gratia basis, but maintain their stance that the user is still at fault. Hapless users who complain are advised to make sure that they disconnect properly next time. 'I think that some of the misunderstandings occur because people fail to understand the way their account operates', said Sharon Hart from AUSNet. 'The information is quite straightforward when the time is taken to explain it. We also send everything out in writing, so it's hard to have any excuse for not understanding.'

Harris Kavadis from Cyberloom explained that in the few cases of accidental connections that his company had experienced, his firm had elected to refund half of the connection fee, and issued warnings to users who didn't seem to be familiar with the Internet about the problem.

The source of billing complaints from ISPs mostly arises from home users. Komoroski claims that complaints from the corporate world are rare. In his view, companies are not as likely to lodge complaints because they are reluctant to query their bills, even if an anomaly had occurred. Generally, Komoroski suggests that company accounts are better managed than their home equivalents, and fewer problems arise in the first place.

Strange bills may be easily observed in some companies with a high degree of human supervision, but Komoroski observes that most billing for service providers is performed automatically. 'Because the Internet is growing so quickly, and ISPs are growing to keep pace with this, I would say that every ISP would have problems with implementing larger billing systems to deal with this growth. We have 1,200 new users every week!' At Ozemail, the ISP's billing system is responsible for detecting when people are connected. 'If the PC wasn't turned off and the connection was still active, we would have to resolve the problem. There are many reasons why a problem can occur and each complaint is dealt with on a case by case basis.'

The easiest way for a user of a dial-up account to avoid the problem of overcharging is to perform frequent checks on usage levels and charges. Ozemail offers an automated system, where users can send in a blank email and receive an auto reply from the billing robot. 'If users take advantage of this, it will allow them to spot any discrepancies.' The database is updated every day. Other ISPs feature Web pages that allow users to check the status of their accounts or use email updates.

Forcing an ISP to actively disconnect an account after a certain time period seems to be a watertight solution, but the idea doesn't suit anyone. Kavadis stated that Cyberloom offers this option, but only applies it in the most extreme cases. Many of Cyberloom's clientele genuinely use their accounts for 12-hour stretches, but the company would be suspicious if a 'one hour a night' user stayed on for that length of time. In cases where an accidental connection is suspected, the company will actively call the customer.

According to Desprez, around 45% of AUSNet's clients have elected to use an auto cutoff option to avoid overtime and overbilling. 'Most of our users pay by credit card, and the ones who select auto cutoff are mostly university students and young people who know that they don't have a large limit on their credit. Corporations tend to almost never use auto cutoff, and the older generation of age 30 and above feel that they don't require it either.'

Accidental connections sometimes occur due to problems with the various dialup programs currently in circulation. Our investigations suggest that MacPPP is notorious for producing accidental connections, as this dialler tries to regularly connect unless it is specifically configured not to do so. Mac users are advised to 'hard close' the software to

'We have had about three instances of people accidentally running up massive bills', said Sophie Desprez from AUSNet. 'In one instance, a family connected with the father paying the initial fee. Two days after the initial connection, he discovered that his son had forgotten to log out and disconnect the modem.

protect their account. However, the greatest technical cause of connection problems stem from the interactions of diallers with modems.

'I think the modem suppliers should make it slightly easier', said Sean Neylon from MagNet. 'The biggest problem in this business is configuring the dialler software for the modem. Usually it's pretty basic, but it isn't always easy to configure the PC to the actual modem.'

Every dialler should have a disconnect function somewhere, whether it's called "Hang Up" or "Disconnect"', explained Mark Dorset from AUSNet. 'This sends commands to the modem to disconnect the line, which produces a very different result from just switching off the modem. All this does is turn off its power! This won't normally leave the line open, as the other side should detect that the modem connection was lost and cancel the connection at the ISP's end, but it doesn't always happen.' Yet a user can't always be sure. As Ana Umali from AUSNet remarked, 'sometimes there are software problems, when people send the right user commands to their dialler, but the modem fails to register this and doesn't close the connection.'

As a last resort, users can generally ensure that their connections to the Net are closed by using some fairly straightforward methods. The crudest method of all is to disconnect the telephone line from your modem, which should normally work. When switching off your computer, ensure that your modem is switched off as well. Users with internal modems normally have no separate switches to flick, but external modems with their own power supply can sometimes be overlooked.

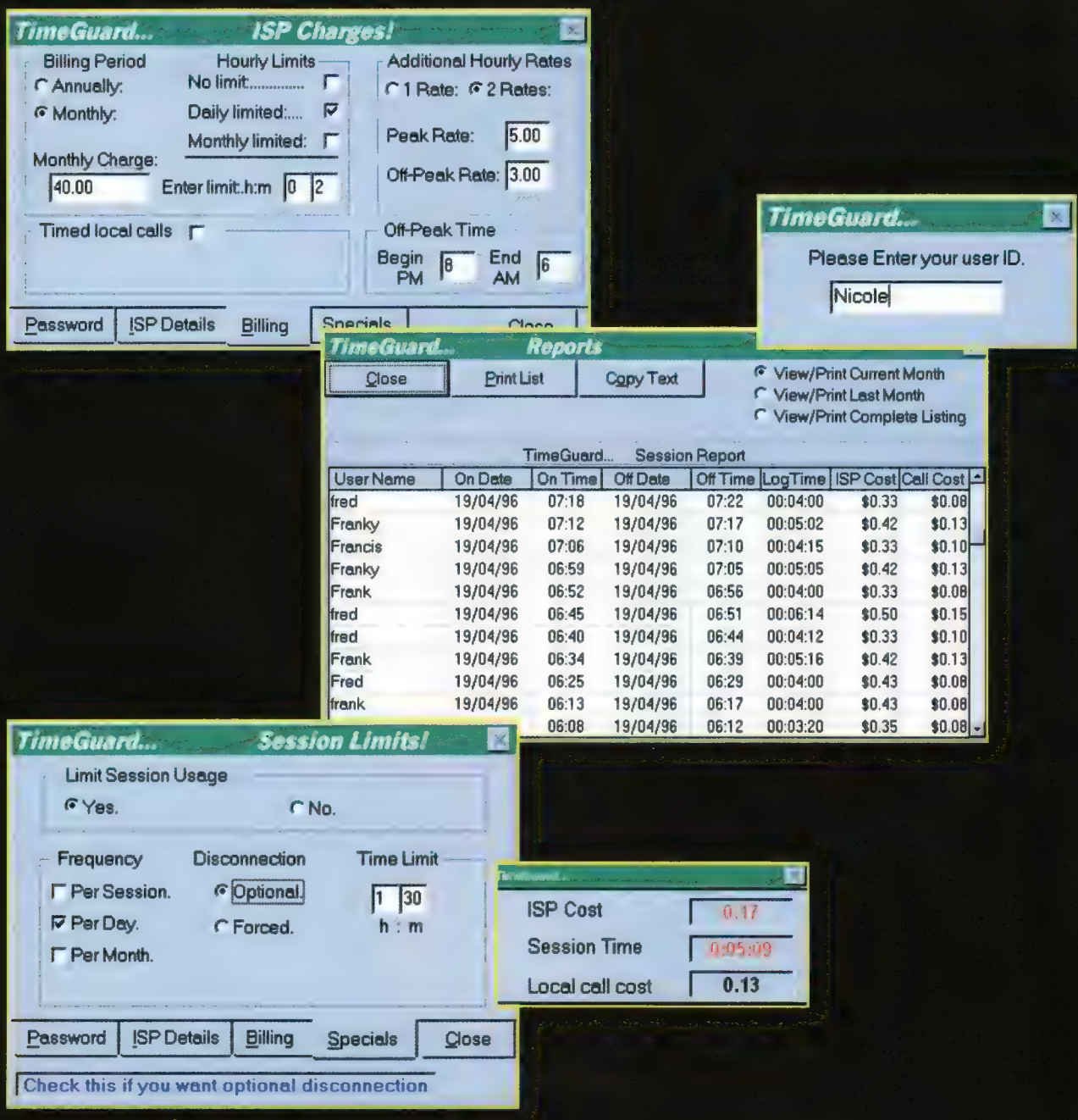
Avoiding an accidental all-nighter is clearly important, but ISPs generally receive more complaints about overbilling for shorter periods. 'Monitoring time isn't understood as well as logging off', said Sharon Hart from AUSNet. 'If people aren't computer literate, I think that they often don't realise that it's up to them to disconnect after their hour or two is up.' Clients rarely squabble over 5 minute intervals, but questions can arise over one-hour sessions that seem to be in excess. 'Once in a while, you'll hear from someone who has just received their credit card statement and almost faints. They'll call us up to try to find out how they used it.' Admittedly, clients can easily check their recent usage statistics on the Web, but the general lack of real-time 'taxi meters' for the Net can lead some users to surf beyond the flags of their own time schemes. Having observed the problem, Nikas and partner Frank O'Brien developed a novel solution in the form of a software utility entitled Timeguard (see Net News, Volume 2 Issue 3). The program is a Windows-based utility designed to work with dial-up SLIP and PPP accounts. Nikas and O'Brien claim they are working on versions for Macintosh platforms and ISDN lines. The software allows users to monitor their online time usage and, if necessary, configure their accounts to disconnect themselves at the end of a specified time period. Spreadsheets allow separate accounting records to be kept for different users of a single account. When asked about the general lack of such a program after years of home Internet usage, Nikas remarks that 'it's a very simple idea. The software industry tends to get bogged down in complexities'.

Nikas claims that the idea of using Timeguard data as evidence in a dispute between a consumer and an ISP in a case of overbilling is 'a very strong possibility. Hopefully, we shall get to the point where our program could be used as a universally accepted standard. Consumers and the industry will decide its future in this respect.'

In conclusion, it seems that the burden of responsibility for logging out and time monitoring clearly falls at the user's end. The recent introduction of a software utility to handle overbilling is reminiscent of the censorship crisis that gripped the Net last year. In both cases, an end-user software package (such as Net Nanny or Surfwatch) was advanced as the best solution, and both remove much of the checking process from the ISPs who supply the connections.

Arguing over bills has long been a part of living in an industrialised world, from water to electricity, and it seems that Net charges will soon join the list of complaints among the community at large.

Download your FREE 14-day evaluation copy NOW!



TIMEGUARD™

www.timeguard.com

TIMEGUARD PTY LIMITED

sales@timeguard.com info@timeguard.com

To Intranet Or Internet, that is the question.

by Brendon Lansdowne

THE CRIES IN THE HALLS OF INDUSTRY HAVE CHANGED THE PRONUNCIATION OF INTERNET TO INTRANET. The long shunned brother of the corporate network world has now been invited inside in the form of the Intranet.

What is the difference?

The Internet provides the external face for an organisation. Customers, dealers and 'surfers' are able to access public information that was so difficult to distribute before. You benefited from 'publishing once, distributing many times' to save a great deal of time and money. Pricing lists and product information are increasingly being put on the web rather than faxed or mailed. Richard Frawley of Cisco Systems mentioned at a recent seminar that their company saves thousands of dollars a year, let alone trees, in promoting their web site to customers to obtain product information. Communication is streamlined with time and distance have little meaning when interacting with a global 'brains trust' via email or newsgroups.

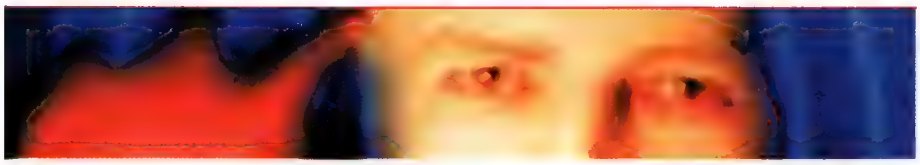
Just imagine if all these benefits were now available to you within your own company with the added benefit of a secure firewall to the outside world. Well it has arrived. You can now have your own corporate Internet that bolts together staff at all levels of the company, from boardroom to warehouse. Information flows freely, communication is simplified and you have a ready platform to build external links to the Internet.

You can now have your own corporate Internet that bolts together staff at all levels of the company, from boardroom to warehouse.

What do you need to setup?

There is little difference between the requirements for an Internet web site and that for your company. A web server is needed to deliver pages in HTML. Each terminal will need to run Netscape or Microsoft Explorer to display the pages.

The network infrastructure will need to be the same as the Internet and configured to run the TCP/IP network protocol. This may be the



biggest leap to reconfigure your network to run TCP/IP. Even a simple Ethernet based LAN converted to TCP/IP may require expertise outside the normal skill level of your network administrator.

The main difference of the Intranet is that you will have an internal environment, closed to the public to distribute confidential information such as balance sheets, employee payroll details or sales data.

The main difference of the Intranet is that you will have a internal environment, closed to the public to distribute confidential information such as balance sheets, employee payroll details or sales data.

The hardware platform can range from a simple DX66 to a powerful Web Force machine from Silicon Graphics. Most vendors such as Sun, IBM and Compaq now have an Intranet solution ranging from $10,000 to $20,000.

However, for a small company, the outlay and implementation can be small depending on the skill level in-house. It is possible to setup an Intranet solution using a Pentium 100, 1Gb of hard disk space and 32Mb of RAM. Unix dominates with the availability of server software and provides a robust multi-tasking system for a web server. A number of companies are running Linux, a version of Unix as the operating system for the server.

Software is also needed to create the web server environment itself. Netscape has been significant in developing software for this function. However, long before Netscape there was NCSA which actually has the highest number of servers running its software. The second front runner is Apache which is reportedly superior to the NCSA version. While Netscape levies $5,000 for its server software, NCSA and Apache are free.

Who has gone Intranet?

There is already a wave of Intranet users on the local scene, with the speed accelerating.

- **Cisco Systems**, a key player in Internet hardware, has built an Intranet to hold much of their ordering system and client information on their own web server.
- **Access One**, one of the leading Internet Service Providers, has built part of their customer service function around an Intranet. Vin Barry of Access One highlighted that telesales staff are able to go to their internal site and select menu options to fax information leaflets out to enquirers.
- **WebLink**, the first to bring live hourly share prices to the Internet, has built its billing system on an Intranet platform.

  Internationally, the signposts are all pointing to Intranet as the new direction for corporate networks.
- **Ford Motor Company** provides more than 56,000 employees access to its 80 internal web servers.
- **Silicon Graphics**, a major player in the server market, has over 300 internal web servers providing access to more than 100,000 internal pages for staff.
- **Boeing** also has 20,000 users accessing nearly 300 servers.

Intranet migration

Companies gravitate towards the Internet in different ways. Often the first strategy was to have an external presence for customers and prospects. Then the next logical step was to bring the technology in-house to form an Intranet. On the other hand, companies that started with an Intranet are wanting to capitalise on what their investment and open up parts of their system to customer access.

A classic example of opening up the Intranet to the Internet is the Federal Express courier company. Customers (including Australia) are able to track their parcels via the FedEx web site. All you need is your airbill number and you will be able to find out where the parcel is up to.

Advance Bank has a superb site that allows you to interrogate your own bank account. You

download a special interface and via password and ID you can list current balance and recent transactions. There is already a bank in the US that provides direct debits and credit transaction over a secure web site.

The AMP subsidiary Priority One is promoting loan approvals over the Internet. A customer via secure site provide all the necessary financial and personal information in the online application form. This information is sent in an encrypted form to the Priority One office and processed. Conditional approval is given via email while waiting for supporting documentation.

The next wave - EDI, POS, EFT?

Intranet is only a hint of what can be achieved using Internet based technology. There is significant R&D going into linking well established corporate systems such as EDI, POS and EFT into the Internet.

Department stores using POS terminals will soon be able to use the Internet for collating sales transaction details and tracking stock levels. A US company called Sterling Software has announced software for POS terminals that will automate bill payment between customers and banks using the Internet.

The Internet is even invading the EDI market. The Internet is becoming the way to gain access to more suppliers, particularly the smaller supplier without the need to build a global network. The cost of EDI is reduced because there is no need to build dedicated network connections with suppliers. The network is instantly available and links partners globally rather than locally. However, the established EDI networks have strength in security and reliability. These characteristics will, with certainty, be incorporated into the Internet in the near future.

The Internet Health Club

Only 2 years ago, the Internet had the reputation of being an overweight and cumbersome entity that only academics understood or used. Now the Internet has been sold a lifetime membership to a health club and is fast becoming 'lean and mean' as the corporate network platform of choice whether for Intranet or Internet purposes. ¶

Brendon Lansdowne helped launch and expand CompuServe in Australia as their national marketing manager for nearly five years. He is now director of WebLink Publishers which has a historical first by providing live access to ASX share prices on the web. http://www.weblink.com.au

Interview: John Hahn

Vice President of Channel Management Netscape Corporation

If the Internet itself is the hottest technology to break into the consumer market in recent times, one company stands out above others as possibly the hottest in the field. When Jim Clark and high-profile software guru Marc Andreesen founded the Mosaic Communications Corporation in 1994, few expected this upstart company to turn into a software giant so rapidly. Andreesen created Mosaic, the first user-friendly graphical interface for the Internet, which generated an explosive interest in the World Wide Web. The company soon changed its name to the Netscape Communications Corporation. In a matter of months, Netscape shot to worldwide prominence on the strength of its highly praised software and services. Indeed, the growth of the Internet under the push of Netscape servers, tools and clients such as Netscape Navigator has sent shockwaves through Microsoft themselves, leading to fierce competition in this rapidly growing market area. John Hahn, Vice President of Channel Management at Netscape Corporation took the time to speak to *Internet Australasia* during his recent visit down under.

***Internet Australasia*: Netscape is in a heated struggle with Microsoft. How do you regard them?**

John Hahn: We think that this is a competitive market overall, and other companies besides Microsoft that aren't even apparent yet will also be our rivals. By the nature of what we're doing by taking an open approach with our software, it's highly probable that there will be substantial competition. Microsoft are a well-managed company and a worthy competitor in every sense.

We have a view of the market that stretches across four fundamental product line areas, not all of which Microsoft participates in today. Those four are client software, servers, applications and tools. Microsoft has yet to make substantial moves in the applications area, but are competing with us in the other three. However, Microsoft have a lot of work to do before they can offer products comparable to what we have today.

Netscape has drastically slashed the price of its servers. Is the competition with Microsoft heating up?

Certainly. Competition is going to be very good for consumers. We think we have some tremendous products out there and from a pricing perspective, we intend to be competitive and offer value. We think there is the potential to reach a very wide set of customers, and part of reaching them is to ensure that your price is on target.

Who else are you watching?

Other companies have made announcements about various parts of our product space. If you look at clients, Microsoft is there with Internet Explorer, but Oracle has their PowerBrowser, and others are emerging. We expect competition to come from various angles, and don't see ourselves exclusively focusing on Microsoft.

Microsoft have suggested that there is no money in browsers. Do you agree?

I think the proof that this isn't true is demonstrated by the way we garner significant revenue from the Navigator part of our product lines. I think that if you viewed the Navigator software as simply being a Web browser, you would find that this would segment commodities in a very definite fashion. However, we view the Navigator as being far more than a Web browser. It includes Mail and Newsgroups. It's a complete communications client, and we are introducing other elements such as streaming video and audio. We're sure that there is a very broad application for these clients. We think the functionality of these clients will continue to grow, and as a result, we don't expect the Navigator space to simply become a raw commodity. There is value there to be provided for customers, and we're in a position to do it.

What's next in the Navigator field?

You'll see us continue to broaden the functionality of our client software. You will see us improve its use for collaboration. We intend to improve its performance and support for various media types. It will be easier to us and install, and we have other improvements planned for the future that we can't discuss right now. I think people will be very impressed with what we come up with. With the Java capabilities and options for plug-ins, I think you will see a tremendous array of services and applications arise around the client that won't necessarily come from Netscape. I think you will see baseline applications come out for delivering presentation materials, tremendous multimedia materials, and others. At our recent developers conference, the level of interest in developing Java applications was very high. Our client software is so ubiquitous that it presents an enormous marketing opportunity for our developers.

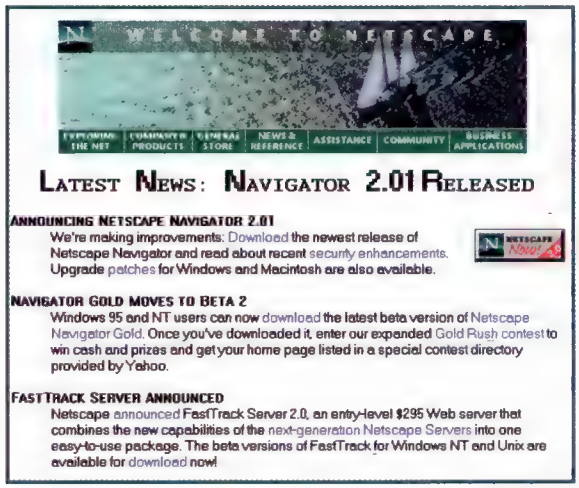
Netscape seems to have a stake in every aspect of the connectivity game. Does this lead to synergy?

Absolutely. There is a tremendous synergy between the development, marketing and sales divisions of our firm. The design specifications and the market targeting that operates in one division carries through to the others. Obviously, we have a lot of complementary aspects between our tools, client and server software. It's one way that we can compete when we're adhering to the use of open standards. The philosophy of the company is very deeply rooted with the views of Marc Andreesen and Jim Clark, who favour open

standards for two main reasons. One is that both Marc and Jim believe passionately that the market is not served well by proprietary standards. The second is that we have a lot of confidence in our development team and their ability to compete very effectively within an open standards environment. You will not see us back away from this philosophy.

Along with other manufacturers, Netscape is suffering from the controversy surrounding the use of encryption for commercial transactions. Can you win the trust of the public?

I think so. In terms of the technology itself, you will find that we have worked very hard to encourage people to come forward and tell us about anything that's wrong with our software. Our 'Bugs Bounty' program generated some excellent feedback from outside the company on ways to make our products better. We've acted on that in a manner that most outside analysts would view as being very open. I think we have a good track record within the industry for doing this. When Netscape suffered from the well-publicised key cracking incident in France in 1995, we had been saying for a long time that a 40-bit key was very vulnerable. All these people did was to demonstrate that! With brute force, you can crack a 40-bit key in a finite amount of time. They wired up a lot of horsepower to do this, and used what we calculated to be approximately $120,000 worth of computing time to break a transaction that would normally be worth substantially less than this. However, there is no question that Netscape would like to see US export limitations altered so that we can provide stronger security.



At Netscape, we have talked frequently about the way people in general accuse the Internet of being unsecure and unsuitable for commerce. We strongly disagree with this. On a relative basis, people take far greater risks with credit cards and financial information today. If you hand your credit card to a merchant, it's subject to misuse as soon as it's out of your hands. That being said, we believe the Internet is acceptable now, but we are working to make it as bullet proof as it can possibly be made to be. When we achieve this, it will be extremely high.

I'm not sure how soon it will be before our export laws change, but I do know that conversations are taking place between the US government and many high technology companies including Netscape. I think the government is certainly aware of this issue and we're looking for common ground to solve it.

Where does Netscape see itself in two years?

While we're certainly thinking that far out in terms of the architecture of our product lines, our primary focus right now is running the business during 1996. The things that we know we need to do are tasks like our SuiteSpot strategy, continuing the development of our Navigator products and refining our applications strategy. You will see the rollout of our overall tools strategy and LiveWire. Through all of these things, the key word is 'execution'. We have a very clear product plan, and we know where we're driving to. The primary challenge for Netscape is to continue to execute as effectively as we have done over the past two years. In another two years, if we have carried out our plans well, we will continue to be a market leader in a very exciting category. This space offers huge growth for a long period of time, and it's going to fundamentally revolutionise the way that business is done in areas such as publishing, banking, financial services and merchandising. Netscape wants to drive this, and thinks it is well-positioned to do so.

How significant is Intranet development to Netscape?

It's very significant. The opportunities there are vast, and our reseller partners are enjoying tremendous success in this area. The heart of this success story is that our Intranet software

improves internal communications within organisations, allowing people to work on collaborative tasks in a way that uses a very open, non-proprietary client. Since many companies have already bought the Navigator, they have a platform for using Intranet. There's a real estate broker firm in the USA that uses our technology

to serve information out to all their brokers across the country, so that brokers can inspect offerings in other cities. That kind of technology that allows you to shrink distances and bring everyone in an organisation together is powerful. We use the technology ourselves within Netscape on a lot of product management activities that cut across functions. Engineering, product management, sales, support and training departments all need to know what's going on with regard to development schedules and specifications on products. Anyone can link to the development server and see what's happening on an almost minute by minute basis. It's useful for fast-paced companies. The limits of the technology are only bound by the imagination of the users. I don't think the traditional client/server model will be thrown out entirely. Information will be more widely distributed than it is today. It's more a case of evolution.

How do you feel about database development?

We don't make them, but work closely with Oracle and other manufacturers. We support the ODBC standards, and we're huge believers in the power of database technology when it's integrated with HTTP and HTML. We don't want to be database developers ourselves, but we want to make sure our products link with them.

What is Netscape's perception of the future of broadband interactive services to homes?

We can see a number of ways that people are attacking it from around the globe. Obviously, ISDN is one approach but it doesn't have infinite speed. The most exciting things I have seen have used coaxial cable to open up the bandwidth using cable modems. There are a number of operations around the world that are exploring this such as Intel's cable modem trials and the @Home project in Sunnyvale, California. The challenge is that nobody knows exactly how these cable modem systems will behave on a mass market basis, with millions of people using the technology. Cable modems are also still relatively expensive products. However, we're very enthusiastic about the use of these systems, because one thing that the home market wants is faster download rates.

Designers complain about needing to design different capabilities for browsers that support different HTML capabilities. How do you feel about this?

We've always said that if you wait for a standards committee to establish a standard, you will never have one! We're not going to let the innovation of the industry be slowed down by standards bodies, but we will always publish how we are doing things and encourage others to use our standards in their own software. We've seen our extensions to HTML adopted very rapidly, and you will see people gravitate towards using the capabilities we are created.

Do you feel that you have forced these changes without consulting other providers?

No, I don't. If we put an extension into HTML, the reason why we do it is because we have heard enough requests for it to warrant it. It's driven by market forces. We don't just spin things up in the lab. As long as we keep communicating effectively with the market, I think that sort of criticism of us is unfair.

Does Java itself have a limited shelf life?

I think Java has a great future, because it will continue to evolve. As a language, Java will improve rapidly through both the work performed by Sun Microsystems and other developers. You will see faster run times and great programming tools developed around it. You will see more scripting tools to allow people to generate Java applications without the need to actually program it. The suggestion that Java will

be replaced by something else is not a view that we would share. Instead, we expect a continuing refinement and strengthening of it. It's all up to the creativity of the users, and we think that Java is going to be huge.

Netscape landed in some controversy when the operation of the 'cookie' file that records online activities was revealed. Has Netscape overcome this?

Controversial as it was, I think the discussions of the cookies file was nothing more than a tempest in a teacup. The reason I say this is because the cookies file has been openly discussed for well over a year, and has never been used for anything malicious. Certainly, when you have communications technologies, there are many ways that people can track usage and activity across a network. The cookie file has a lot of possible uses, one of which is to monitor people. When you have a stateless model like the way we run our connections, a cookie file can provide you with a way to maintain some sort of reference to states taking place between the client and the server. It was originally developed to allow us to provide a sort of shopping cart technology so that as users selected items in an electronic store, the cookie file could be used to keep track of what you had grabbed as a part of that communication with that server. In reality, cookies hasn't been used very widely and as far as I know, nobody is using it for anything that would raise eyebrows.

Netscape is heavily involved in collaborative networking. What is your attitude towards the Notes Public Network deployed by Lotus?

We believe that the world is headed towards open standards, and Notes in not based on an open standards. It's very useful, but it's proprietary and is a challenge to administer and install. We think that Web-based technologies can serve people's needs very effectively. Some of our clients are using Web-based Intranet systems to do things that they couldn't have done four years ago with anything other than an in-house proprietary network. We are not trying to put out a 'be all and end all' product relative to everything that Notes can do, but we are interested in putting out products that meet the bulk of people's needs. We've already demonstrated that people are going to find our systems to be useful and cost-effective.

Your own Web site at www.netscape.com is the most popular site in the world. Why?

The last time I checked, we served up roughly 45 million hits in one day. The traffic is very high, and we're fairly sure that we're the busiest site on the Web by a considerable number. There's a lot of information on our site that people are interested in. Most people who use the Navigator have an interest in technology, and we have found that people come to our page because they view us as the leader in our field and want to know what we're doing. They like to check out what we're talking about and if we've acquired anyone else in the last 24 hours! Netscape is a fun and privileged company in that people are interested in us because of the interesting work we do. People also like the What's Cool section. We take orders online for anything from coffee cups to software. I don't think any single part of our site would capture all the attention, but in general people are looking for information about Netscape ourselves.

If a small company wanted to develop products to work with Netscape, how would they go about it?

We have a developer's program that totally sells out when it runs seminars. It is a part of our program to work with people who are going to build on Netscape as a platform, and we have a tremendous opportunity to show these people off via our own pages. In some cases, very small businesses with exciting ideas can receive exposure that would be difficult to get otherwise. We will aggressively promote people who have things that the market is excited about.

Women's Wire

Geek Chic

Akiko tour of New Zealand

Gutter Tribe

Online Gaming Review

The Hollywood Reporter

Absolutely Fabulous

Comics du Jour

PaleoNet

Sky Online

CryptoLog: The Internet Guide To Cryptography

Nuclear Control Institute

Research-It!

Internet for Kids

The Why Files

Serendip

Web Week

Brave New Work World

SRI International

Big Companies, Boring Sites

Health Net

The Parent's Page

Conscious Choice

Ask Dr. Tracy

The Jazz Photography of Ray Avery

Joseph Cusimano

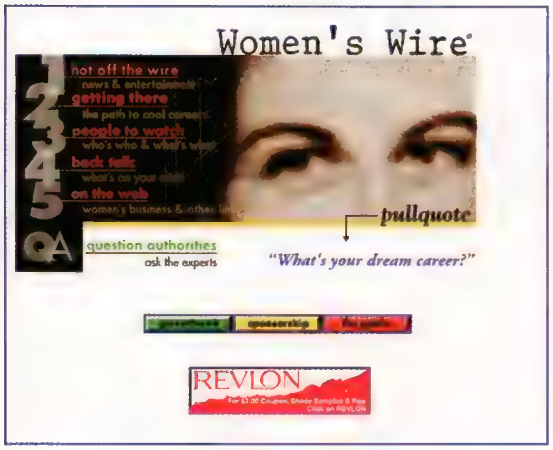
Gruene Street

Bowling Alley: A Cybernetic Installation

Women's Wire

http://www.women.com/

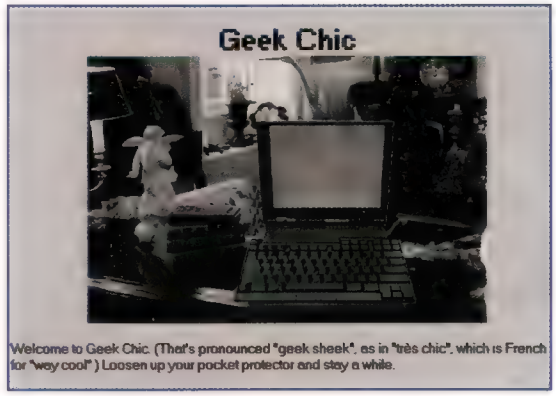
Women are certainly storming the Internet in ever-increasing numbers, and this regularly updated online guide is arguably one of the best Web sites dealing with women's issues around. With a highly professional layout, commercial advertising from some very mainstream sources and a nice exploitation of effects such as animation, it's tempting to think of Women's Wire as nothing more than a Webbed equivalent of a glossy women's magazine. Take the time to read some of the interesting and lively contents, and Women's Wire shows its true colours as a publication that's specifically geared towards young, upwardly mobile women with an interest in technology. The profile neatly fits in with the demographic profile of the typical wired woman who has access to this online magazine. Women's Wire is very keen on profiling other women who are making waves in the IT and multimedia fields, especially at a management level. Visit the Talk Back section for some interesting online polling on issues such as career movements and Internet censorship, together with the results. The overall tone of Women's Wire is strong and confident, suggesting a production team that sees women taking their own initiative and succeeding. Male readers should not feel left out at the site, as much of the contents will appeal to intelligent readers of any sex. The contents changes every month, and future issues will certainly be worth a look.



Geek Chic

http://access.advr.com:80/~geekchic/

Globetrotting knows that the user profile of the Internet is heading closer towards conventional social norms at an astounding rate, but the original inhabitants of this electronic frontier are struggling to maintain their culture in the face of this invasion of the cool. Geek Chic is a lighthearted celebration of the technonerd phenomenon, pulling out the stereotypical features and practices that so many of us try to play down and thrusting them into the limelight. The site is peppered with gems such as the term 'brain-boner', which is 'the feeling that your brain has filled with fluid and expanded to twice its normal size'. Don't miss the 'Geek Reheotique' section for its crazy caricatured story of the life of a high-living geek girl whose fictitious life contrasts sharply with the normal geek stereotype of a socially inept male student. Unfortunately, the site places a little too much emphasis on pocket protectors, which aren't really popular down under. The ultimate irony of this transformation of geek culture from a fringe group in the pre-PC days to an accepted part of society is the way the obsession with computer technology (that's central to the geek world) has become a genuinely cool phenomenon. Is the true spirit of geekdom itself at risk of disappearing? Geek Chic itself has no precise answer, but manages to preserve so much of the culture as it is today.



Welcome to Geek Chic. (That's pronounced "geek sheek", as in "très chic", which is French for "way cool".) Loosen up your pocket protector and stay a while.

We're ready to surf the Web for another year, and the millions of pages out there are still growing faster than we can cover them. Globetrotting is sectionalized to help spread the coverage of the hundreds of topics you can find.

Akiko tour of New Zealand

http://www.akiko.lm.com:80/NZ/NZTour/

The Internet is filled with all manner of virtual travel guides that often turn out to be nothing more than poorly constructed collections of half a dozen snapshots plastered around a promotional page. This tour from Akiko of their own native land is a pleasant exception to this trend. The Web is a highly visual medium, and the generally breathtaking scenery of New Zealand has been adapted well to the small screen. Enjoy the 'slide shows' of New Zealand's urban and natural settings, which look great on a high-resolution monitor. The files on New Zealand's history and culture are easy to read, and could serve as useful reference sources for school projects. Most readers will be familiar with New Zealand's major cities such as Wellington and Auckland, but the site provides interesting peeks at life in places like Waitakere, New Zealand's first 'ecocity' where environmental considerations have played a major part in town planning. The material is so well composed that it would be tempting to hope for solid facts such as geophysical statistics, but the site is primarily aimed at attracting tourists instead of serving as a fact book. The site will impress you with its sheer volume of material, meticulously covering the entire nation with a consistently high level of attention to detail and undistracting layout. Links will occasionally take you to servers beyond Akiko, but all of the linked material is worth examining for the reader who wants further information. Certainly, this site should serve as a model for anyone considering a regional information site.

Gutter Tribe

http://www.auschron.com:80/gallery/

An interesting example of print journalism spilling over onto the Net to achieve a more permanent status, Gutter Tribe is the result of an assignment to cover the lives of homeless people in Texas, and the photojournalism that has resulted could either be considered to be reportage or art. The style adopted by photojournalist Jana Birchum on the Web is highly different from the format normally adopted by newspapers, and one can only assume that a greater degree of creative freedom has been practiced in adapting this material to a Web site that is even an official part of the newspaper that originally ran the story. Perhaps the rules for print and Net journalism are vastly different! The images convey a clear message of urban decay and rejection, yet the tone of the smiling faces and rebellious grins seems to project a more positive message about the lives of these clearly disadvantaged individuals. While admitting quite openly that this is hardly an ideal lifestyle, Burchum comments in her opening notes to the exhibit that 'they love their lifestyle, they say, they chose it. They refuse to give their lives to corporate society. They do not earn, they do not own. It is a community of teens who do not spend one moment at the mall.' The transcript of an IRC session with some of the homeless youth interviewed here is as incoherent as most counterculture channels on IRC normally are, and isn't worth your time. Educators may or may not consider this material to be suitable for children, but it certainly provides an interesting window on a sub-culture that is just as prevalent in Australia as the USA.

Online Gaming Review

http://www.nrgroup.com/ogr/ogr.html

Nicely juggling its polished layout with a style that still manages to be down to earth, Online Gaming Review is an upstart Web zine with a small but enthusiastic staff who are clearly committed to their audience. OGR is a zine about computer games that seeks to overcome the frustrations serious game players encounter from the print medium. Delays in waiting for reviews to appear in mainstream magazines are annoying for someone who can reach out and grab a title on a shelf today, assuming that the reviews haven't been paid for by the manufacturers. Jump to the Editorial section for commentary on the state of the computer gaming world that seems to have more intellectual clout than the journalism in some major newspapers. OGR is clearly aimed at the intelligent, mature games enthusiast instead of 12 year-old Nintendo fans. The zine explores motherboard technology with a confident, talk-up-to-you tone, the problems encountered by the deaf in playing multimedia games and the demise of detailed role-playing games as the rush for mass appeal software takes over. Press releases are reproduced here, but the real attraction is a steadily growing stable of reviews that reflects a mature, experienced perspective with a little humour thrown in for effect. Australasian readers will most appreciate the notices of upcoming releases which haven't even appeared in the USA. Filled with life and detail, Online Gaming Review seems destined to become a zine with a solid future, assuming they can resist commercial pressures.

The Hollywood Reporter

http://www.hollywoodreporter.com

A direct offshoot of an American newspaper, The Hollywood Reporter Web site is an ideal way to spot the latest headlines from Tinseltown before they appear in practically any other media outlet. Don't worry about the fact that the latest news at the site seems to be a day behind Australasia's timezones. It's likely that these articles won't be printed until tomorrow, your time. The daily news feature is a collection of about half a dozen stories dealing with the movements of major stars and new productions, but it's surprisingly focused on corporate changeovers and the workings of America's FCC, bugbear of the reshuffling that's presently taking place in the USA's entertainment industry. A separate section is dedicated to the film industry, and uses the same text-only format with paragraph stories against a white background. For such a high-budget production, there has been an almost total resistance to take advantage of even the Web's simplest enhancements. Browse the site for a few pages and the almost complete mimicry of a tabloid newspaper becomes apparent. For local viewers, the previews this site offers of movies in production is probably the most interesting part of the overall site. *Globetrotting* felt that the music section was boring, mainly due to its emphasis on management changes at record companies instead of artists. World entertainment news tends to be a bit trivial. The emphasis of the site is on speed and efficiency, rather than the delayed details that most infotainment sites on the Web are geared to. Most surfers will have little time for this, but devotees of Hollywood will want to log on daily.

Absolutely Fabulous

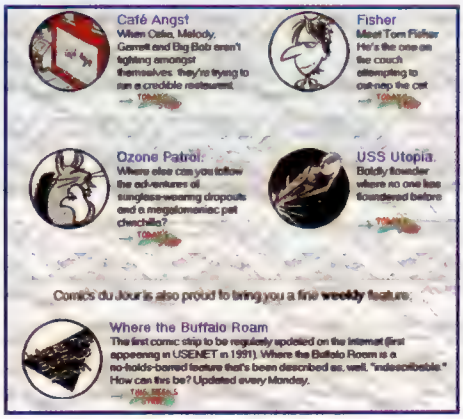
http://www.loop.com/~raw/TV/abfab/abfab.htm

Oh sweetie, darling, this site is an absolute must see for fans of Edina Monsoon (Jennifer Saunders) and Patsy Stone (Joanna Lumley), the two principal protagonists of this classic television series. The show and the site are orgies of fashion, glamour and indulgence as the excesses of the eighties are brought out for scrutiny. AbFab is legendary for its one-line outbursts of cliches, and this fan site sports an impressive list of .wav format sound grabs suitable for casual listening or regular playing as a part of your computer's start-up routine. Do spare a thought for the download charges the operator of the site incurs every time his site is accessed, but don't forget to enjoy yourself! The active map of London and the Parking Committee Home Page are jokes that you'll only understand if you've actually seen most of the show, but the Webmasters of these other sites probably remain unaware of the links here. Just when the site has piqued your interest, the local content almost totally ends, directing you to detours of other AbFab fan sites such as the rather unflashy TARDIS site, filled with useful information set in an unimaginative format. Elsewhere, you will find links to AbFab newsgroups and mailing lists. The whole AbFab Web seems to suffer from the usual Net problems of sites that seem to do little more than link to each other, as well as links to dead pages. Nevertheless, there's a clear element of fun and revelry that permeates all the contents here.

Comics du Jour

http://internet-plaza.net/zone/comics/

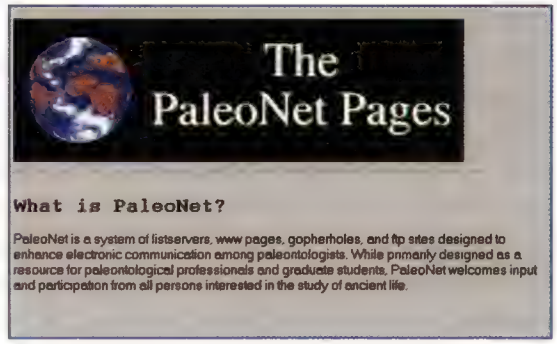
The Internet has spawned a small collection of original comics such as the legendary Dilbert, but this well-crafted Web site has not received the publicity that it deserves. Comics du Jour serves up five separate comics regularly, and updates are mostly posted every five days. Start with Cafe Angst, a rather black comedy in which modern anxieties are enacted in a taunting and sometimes cruel format. Cafe Angst will seem to be either bitingly witty in a Doonesbury style or as flat as an American TV sitcom, depending on your taste. Next on the list is Fisher, a comic that's published offline in Canadian newspapers that seems to be a rather dull attempt at comedy about a group of people living together in a flat. Ozone Patrol seems a little more biting with its urban cynicism, but is best read by looking at five strips in a row to preserve the continuity of the plot. The USS Utopia probably comes closest of all to the traditional Sunday paper funnies with its slapstick jokes and craziness set on board a spaceship filled with every gadget and alien life form that pulp science fiction has ever invented. Where The Buffalo Roam is a weekly cartoon that was one of the earliest to go online, and was judged by your reviewer to be the funniest on the site. Some of them may be crude, but they certainly made us laugh! All of the comics are featured with at least a week's worth of 'back issues' that will help new readers to get into the swing of the characterisations. Material of this quality rarely comes on the Net with absolutely no strings attached, and Comic du Jour is actually a carefully constructed lure to attract business to the online firm Zone Interactive. Still, a surfer can easily ignore the commercial promotions and just enjoy the witty material for free.



PaleoNet

http://www.nhm.ac.uk/paleonet/

Paleoentology, the science of digging dinosaur bones and other prehistoric relics, has been relatively slow to adapt itself to the Internet when compared to other sciences. PaleoNet uses the classic starting point design strategy to collect the best paleontological links on the Net together in one spot. A fan of the sciences will note that this list is rather small, but it compromises most of what is currently available for the professional researcher. PaleoNet downplays the online dinosaur exhibits that can be found elsewhere on the Web, which clearly have more appeal to children than the scientists themselves. The site is very keen on promoting mailing lists (listservers), which seem to be an essential tool for keeping the geographically dispersed paelontogical community in touch with each other. Many researchers find that they are the only person working on a given area of research in an entire country, which leads to strong feelings of isolation! Read the archives to PaleoNet's own list, and you will see how true this is. Download software from PaleoNet's FTP site, which seems to be heavily Mac biased in its offerings. Read the PaleoNet Forum, a bulletin-board style repository of various comments from scientists who use the site. View images of fossils and browse the conference listings for the field. Be sure to take a close look at the rendition of the Earth at the top of the page, which shows the continents in a highly different state to the present. Strangely, this is not the Earth of the distant past, but of the distant future. Webmaster, you've been caught out!



Sky Online

http://www.skypub.com

Another example of a high-quality print publication making a successful transition to the Net, is the online version of the US-based astronomical magazine Sky & Telescope. The magazine publishes its cover and table of contents for the latest print issue, but has resisted the temptation to reproduce the actual contents for fairly obvious commercial reasons. The Web site is more of a supplement to the publication rather than a substitute. Sky & Telescope publish a weekly news bulletin at the site, which will alert you to new events such as comet discoveries or events at the world's leading scientific organisations. Much excitement was afoot when *Globetrotting* dropped in about the release of the first clear images ever taken of the distant planet Pluto, courtesy of the Hubble Space Telescope. Images from this orbiting observatory are scattered throughout the site, and the new discoveries this instrument makes are enough to prompt any astronomy fan to bookmark this site. Elsewhere on the site you'll find clear images of Mir, the world's only space station, that are also worth the download time, along with instructions on how to see it from the ground. The site also sports a wealth of general reference material dealing with astronomy and telescope design that never changes. A similar overview is given to CCD Astronomy magazine, but this publication will only interest serious astronomy buffs. The site provides a great balance between interesting features for the untrained astro buff as well as solid mathematical content for the diehard. Filled with useful material, we found this site a pleasure to visit.

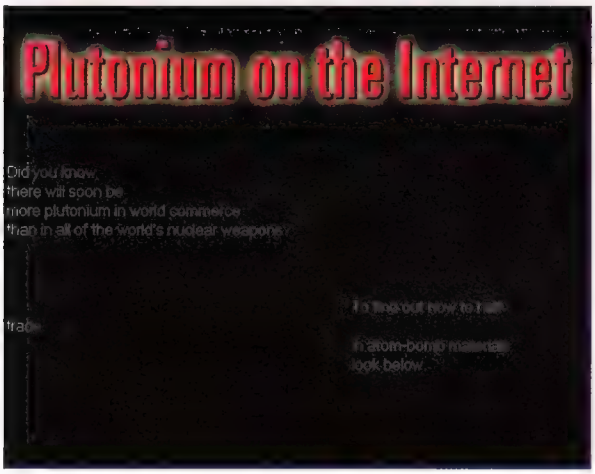
CryptoLog: The Internet Guide To Cryptography

http://www.enter.net/~chronos/cryptolog.html

Cryptography has undergone an amazing transformation in the past few decades from a sleepy area of applied mathematics to a frontier of science that's now generating more controversy than even medical research! Cutting through the hysteria that's surrounded cryptography, especially as it applies to the Internet, this site focuses primarily on the scientific principles behind it. CryptoLog contains little original material of its own, but is a well organised and regularly updated collection of links to files and sites outside it. The reader who is just looking for a general introduction to cryptography should just read the FAQ on the opening page before going any further. Download the actual set of links, and you will be presented with an intimidating list of over 400 references, some of which relate to topics only comprehensible to a disciple of the field. There is little point in exploring the mathematical section of the site unless you have studied the subject at a university level. Similarly, many of the seminar papers will only make sense to the initiated. Of particular interest are the notes on securing data stored on hard disks that isn't even being transmitted across the Net, purely for reasons of personal security. Pay attention to the Key Escrow section for some interesting reading. *Globetrotting* warns all our readers that downloading cryptography software and algorithms from servers in the USA to another country constitutes an export of that material according to ITAR regulations, and is technically illegal. Readers who wish to put theory into practice are strongly advised to select a server in their home country as a source for these sensitive materials. Readers in New Zealand are advised to visit the Australian site listed under the Cypherpunks section.

Nuclear Control Institute

http://www.nci.org/nci/



Very stylish for a scientific site, the opening page to the Nuclear Control Institute raises issues of global significance to not only the scientific community, but strategic planners. NCI is a non-profit group that's concerned about the spread of nuclear arms in general. More than a decade after their foundation, this group has watched the end of the cold war change the balance of power enormously, as plutonium and other materials used to assemble nuclear weapons become traded commodities on the black market. Tracking the course of these illicit materials is often impossible, and analysts generally agree that smuggling rings for bomb parts are becoming as established as drug distribution networks. The principal thrust of NCI's advocacy is to promote the elimination of weapons-grade isotopes, such as plutonium and highly enriched uranium, from civilian nuclear power and research programs. In theory, this would stem the flow of stolen isotopes from these sources, but NCI's approach is arguably a case of closing the gate after the horse has bolted. Far from being a problem that stems solely from sites in the former Soviet Union, NCI accuses the USA of accelerating the proliferation of these materials for short-term foreign policy advantages. Ironically, these ostensibly pro-American trade initiatives could ultimately backfire with terrorist nuclear strikes against the USA. NCI project a reasonably conservative image and a high level of knowledge about the issues they confront, making their arguments seem highly credible. The result is a frightening and attention-grabbing read. Turn off the graphics and you won't miss the message here.

Research-It!

http://www.iTools.com/research-it/research-it.html

This magazine has noted the appearance of online reference materials such as dictionaries and thesauri in the past, and has generally disapproved of them for their poor access times. For the most part, a book on a shelf is still the best way to retrieve this information quickly. The Research It! site has a neat layout and actually includes advertising, a sure sign that someone out there is taking this seriously. Search Webster's dictionary with all its Americanisms, and you will see that this site merely links to an existing site that seems to have at least improved its response time. Webster has no listing for 'Internet', but the computing dictionary alongside it certainly does: try spelling it entirely in lowercase for a second entry. Roget's Thesaurus functions in a similar fashion. Just type the word and see what the database returns. Look up acronyms and quotations, but note that the server response times aren't always consistent between these different sites. The site also links to translators for English to French and English to Japanese, as well as vice versa. Much of the remaining contents, such as zip code directories, will only be relevant to American users, but the anagram server is a lot of fun. Try your own name and see what comes out! Maps of the world and the CIA World Fact book round off an impressive collection of reference links, but the entire system would still be more reliable if it were all located at the same site.

Internet for Kids

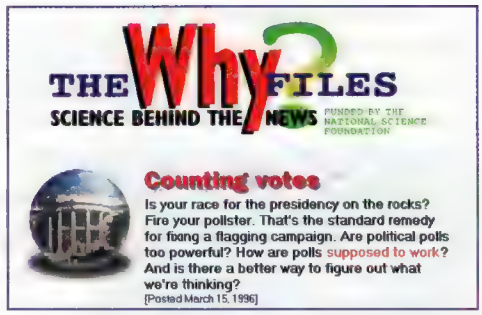
http://www.internet-for-kids.com/

Teachers and parents who are concerned about the proliferation of Net Nasties can allow young people to surf in safety at this carefully screened Web launchpad. The site is set up by Dr. Victoria Williams, a teacher and parent. The site provides eight major links to different areas of interest, such as 'squirrel cam', which invites children to email suggestions for naming the creatures. The winners even receive t-shirts. E-pals is a great way to find online pen friends according to age and interests. Dr. Williams even offers tips on how to connect babies to the Internet with the aid of a colourful set of letters of the alphabet: click each one in turn for a different image related to the letter. Internet for Kids is currently assembling characters to serve as the basis of a fantasy fiction saga, and invites young people to submit descriptions of the characters they would like to see. Interestingly, the site features an interactive fiction story set in a haunted house that its own readers can contribute to. Internet sites for users below the age of 7 and online sites for playing tic-tac-toe jostle alongside links to the NASA home page and education-related links. The layout is unpretentious but still fairly colourful. The contents of the site are updated every month, and this is certainly a site that's worth bookmarking for younger users.

The Why Files

http://whyfiles.news.wisc.edu

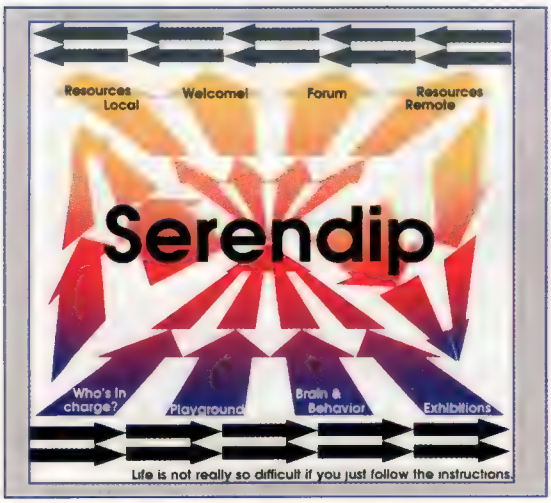
Sadly, there is no sign of Mulder or Scully at this site, but this US National Institute for Science Education-sponsored site is an effort to illuminate the science, mathematics and technology that lurk behind the headline news. The page is updated every two weeks, and touches on such issues as diet and blindness, the hunt for cosmic neutrinos, ancient life in amber and the pros and cons of electric cars. The most controversial topic under discussion on the site when *Globetrotting* dropped in was xenografting, or the practice of transplanting organs from animals into humans. The NISE is surprisingly frank in its assessment of the issues, explaining the problems and disadvantages of every scientific breakthrough with a heavy level of scrutiny. The writing style is very brief, and filled with short rhetorical questions that probably say as much about the concepts as an entire paragraph could in a conventional scientific journal. Look out for the cool scientific images page, which showcases anything from a computer rendition of underground channels to exploding stars. The sports quiz is a little silly, but it's worth your time to explore back issues of The Why Files if you like its tone, and add your own comments to the mail forum. The site doesn't seem to be aimed at a particular age group, and makes interesting reading for high school students through to adults.



Serendip

http://serendip.brynmawr.edu/

Probably one of the strangest and the most though-provoking sites dealt with by *Globetrotting*, Serendip is a tour through the domains of neuroscience, psychology, philosophy and human behaviour. It's hard to say exactly where a new visitor should start, and the best way to approach Serendip is to click a link for a topic that you fancy and simply follow through. Play the Prisoner's Dilemma game with the computer, and understand the implications that this classic thought experiment has for management and cooperative strategies. Explore the debate surrounding the statistical 'bell curve' and its impact on social practices in education. The roughly half dozen principal contributors to Serendip seem to be largely using the site as a soapbox for expressing their own views on the way psychology interacts with the society that has given rise to it, and the reader may or may not agree with every point that's expressed here. Probably the most controversial topic that permeates the entire site is the debate over the free will of individuals in light of the influence of genetics, education and social surroundings. The layout isn't particularly imaginative, but the mostly text-based pages download easily. The site seems a little too complex for use in teaching at a high school level, but more mature readers with an interest in these topics will find it a rare treat on the Web. Teachers, especially, may think twice about the way the educational process works.



Web Week

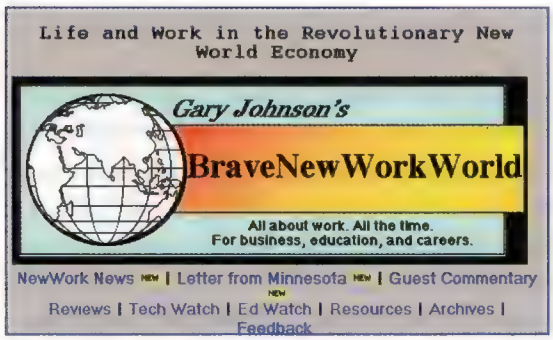
http://pubs.iworld.com/ww-online/

Web Week is a tabloid-style print magazine aimed at people working in the online industry, with a primarily American focus. The online version has the same feel as the printed edition, and the articles will certainly arouse the interest of businesspeople who use online technology within their companies. Web Week is heavily geared towards the activities of major companies and IT suppliers, which could alienate some small businesses, but the trends that are adopted by these leading firms often replicate themselves throughout the entire business world. Web Week has recently documented the rise in intranet deployments, the development of new systems for online charging for document delivery and the growth in new capabilities for the Web through HTML and VRML. Web Week certainly has a strong corporate focus, but there's a fairly even mixture of raw technology and industry gossip. Pages tend to download fairly easily, owing to the almost total absence of graphics in anything but mastheads. *Globetrotting* was unable to find any editorial content that had direct relevance to Australasia, but the fact that most of the major driving companies behind the Web are Stateside takes the sting out of much of the parochialism. Web Week isn't afraid to add their own opinionated commentaries to current events, taking sideswipes at some of the world's major developers. Lively, brisk and fun, Web Week isn't the ultimate guide to Net commerce, but makes a valuable contribution to the overall picture.

Brave New Work World

http://www.newwork.com/

Highly unusual for the normally conservative business arena, this site is a collection of speculation and commentary on the radical changes that are taking place around the world on economic, political and technological fronts. All of these ultimately produce an impact in the work place, and inspection of Brave New Work World suggests that no part of the planet has been immune from these effects. Unemployment is apparently on the rise in most Western nations, and human rights abuses continue in other parts of the world as governments find themselves on increasingly unstable ground. Read the NetWork News section for an excellent wrap-up of global events in politics and industrial relations that doesn't totally ignore Australia. Indeed, the site's guest commentary sections featured an Australian academic when *Globetrotting* visited. Webmaster Gary Johnson is eventually hoping to produce a book on his views of the future, but his essays on education and the structure of society as we approach the millennium can all be found at the site. Contrary to what its title may suggest, the overall structure of Brave New Work World manages to avoid the sensationalism of Huxley or Alvin Toffler. Graphics at the site tend to be almost nonexistent, apart from the title bar, but some parts of the site could certainly benefit from some graphical renditions of statistics. Balancing vision with pragmatism, this is an interesting site for economists, employers, and anyone with an interest in the future.



SRI International

http://www.sri.com

One of the world's most high-profile high-tech think tanks, SRI is an applied research organisation that develops solutions and strategies for a wide range of international clients. Everything SRI touches ultimately has some form of grounding in science and technology, and the areas they have explored range from atmospheric studies to zoology. The Stanford Research Institute performs more than 1,000 research projects at any given time, and has attracted a fair amount of attention within networking circles for its investigations of security and encryption on the Internet. You'll find it's quite expensive to hire SRI to work on your own private area of interest, but their Web site does at least provide a window into some of their more interesting and public research projects. As an organisation employing hundreds of researchers with PhDs, SRI can boast a range of research facilities and personnel that wouldn't be found in the combined universities of most nations. The research body performs much of its work behind closed doors for obvious commercial reasons, but rumour has it that some of its areas of investigation relate to highly classified defence projects for the US government. Images and diagrams of some of the fascinating equipment in use at SRI would certainly make this site exciting, but there is remarkably little in the way of fancy layout beyond the opening page itself.

Big Companies, Boring Sites

http://www.netcreations.com:80/boring/

One of the frequent advantages of using the World Wide Web for business is the way that a small company can appear to be much larger with the aid of a well-composed site. Unfortunately, the opposite is also true, and the Web is littered with pathetic sites from companies that simply didn't put in the necessary work to making their home page worthwhile. Unlike Mirsky's 'Worst of the Web', this critic's guide to poor Web pages has targeted only a handful of specific examples of different ways a Web site can go astray. For the benefit of companies planning their own pages, your online critic Ryan Scott offers constructive commentary on how these pages could be improved. It's amazing to see movie giant United Artists, who should have both the capital and the required multimedia expertise to turn on a stunning site, produce a Web presence that other Net magazines openly mock. *Globetrotting* feels that the Boring Sites commentary is a little too sarcastic than it needs to be, but the site is indeed somewhat overblown. Similarly, some very well thought out points about other badly constructed sites are worth noting, assuming you can see through the embarrassing mocking tone that's used here. Certain features such as FAQ lists and feedback forms should be an essential part of any major site, but most of the companies on the list have ignored these simple rules. Companies considering their first steps on the Web are advised to study these examples closely, and avoid repeating these errors with their own design teams.

Big Companies, Boring Sites

and how to avoid getting on this list

Some inspiration for this page is owed to Bart Ziegler, Staff Reporter of The Wall Street Journal for his article "In Cyberspace, the Web Delivers Junk Mail"

If you are having trouble reading this, try this page. I've heard it's hard to read with certain setups. Looks fine on mine so I can't explain it. If you have any clues, I'd like to find out 1) how many colors you are running with 2) what browser you are using 3) what exactly is amiss. Write me

The purpose of this site is to point out problems with existing sites and give some suggestions as to how they could be reworked and improved. It is not intended as a forum for bad-mouthing sites or companies. Hopefully this information will be useful not only for the maintainers of the sites critiqued below, but for the reader in developing his own web presence

Paul Wylie Homepage

Uselessnet's rec.sport.skating.ice.figure is already a-twitter with the flap building over the "official" Paul Wylie homepage URL: http://www.nvi.com/paulw. In case you don't know him offhand, he's the one who looks as if the Mattel Corp. just issued a Jimmy Cagney doll, in a life-size format. He's best known to the outside world for performing a (sort of) Nazi salute in a performance set to music from "Schindler's List". Now, I'm sure he's a nice guy and means well. he's a Harvard man and goes to church and lets his Mom come over and organize his life. And you can read all about how many things his mom made him throw out in September in the Journal section of his home page, courtesy of Netvantage

URL http://www.nvi.com/default.html The real problem is, for whatever money (or no money, since we all know how that kind of deal gets made), Netvantage seems to be too busy with their other clients -- including a company that buys leftover churches (!) and people who call themselves "steak-swingers" or some such thing -- to clean up the details on the fewer than a

Health Net

http://www.health-net.com/

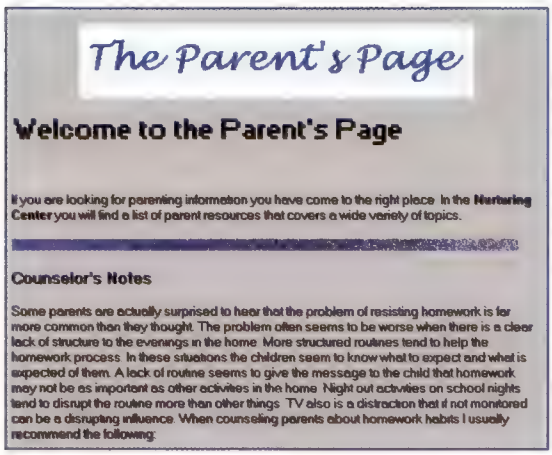
Nicely composed with large but tasteful graphical interfaces, Health Net is a starting point for a wide variety of material relating to health and medicine that has been compiled by a practicing MD. The number of topics listed on the opening page itself is large, but each one in turn branches to several sub-categories that makes this an enormous repository of information. It's rare to see a list of links of this size that doesn't point to resources outside the site, but all of the information linked to Health Net's home page is totally internal.

Globetrotting did find a few more 'missing links' than is normally considered to be acceptable at a professional Web site, but at least the information that made it onto the page is accurate. The site reads like a family medical dictionary or a first aid manual with its dry descriptions of how to treat emergencies, and it seems fairly obvious that much of the contents has probably been copied from these sources! Nevertheless, this is a clear and easy to understand way of investigating these topics. The site deals with alternative medicine, arthritis, baby care, child behaviour, diabetes, emergency medicine, first aid, fitness and exercise, disabled health, heart care, medication, men's health, women's health, nutrition, sports medicine and other topics. Sections of the site also change monthly. Apart from photos of Dr Kathleen Handal who created the site and the opening page, there is virtually no graphics to speak of. Do visit the First Aid section of the site for some interesting questions and answers.

The Parent's Page

http://www.tso.cin.ix.net/user/jh/jhicks/parents.html

Erected by a school counsellor, this online guide to the problems of parenting isn't exactly flashy in its overall layout, but is slowly growing into a useful resource centre for a variety of problems. Each month, a new article in the 'Counsellor's Notes' series is marked up at the site, dealing with issues such as encouraging children to do their homework. Australasian readers will have no use for the Parent Line service linked to the site, which is only active in the USA. The link to the National Parent Information Network (NPIN) is also for a US service, but the resources on this additional site are freely available. Read 'Parent News', a monthly magazine dealing with educational and social issues that still has a fair amount of America-only material. Parent News is mainly concerned with addressing problems that occur in social environments such as the classroom. Join the parenting discussion list at this site for a more interactive slant on raising children. The list of parental resources via a gopher menu provides some fairly dry but interesting comments on dealing with children of various ages. The other resources beyond NPIN tend to be a little low on useful content. It's doubtful that you will want to explore this site for hours: indeed, there is insufficient material to really do so, but the site's frequent updates should prompt a curious parent to keep checking for new content.


The Parent's Page

Welcome to the Parent's Page

If you are looking for parenting information you have come to the right place. In the **Nurturing Center** you will find a list of parent resources that covers a wide variety of topics.

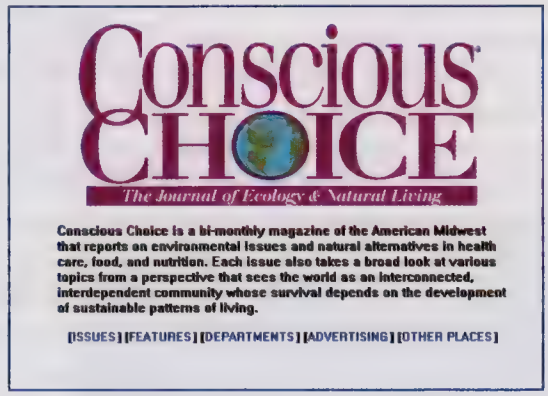
Counselor's Notes

Some parents are actually surprised to hear that the problem of resisting homework is far more common than they thought. The problem often seems to be worse when there is a clear lack of structure to the evenings in the home. More structured routines tend to help the homework process. In these situations the children seem to know what to expect and what is expected of them. A lack of routine seems to give the message to the child that homework may not be as important as other activities in the home. Night out activities on school nights tend to disrupt the routine more than other things. TV also is a distraction that if not monitored can be a disrupting influence. When counseling parents about homework habits I usually recommend the following:

Conscious Choice

http://www.consciouschoice.com/index.html

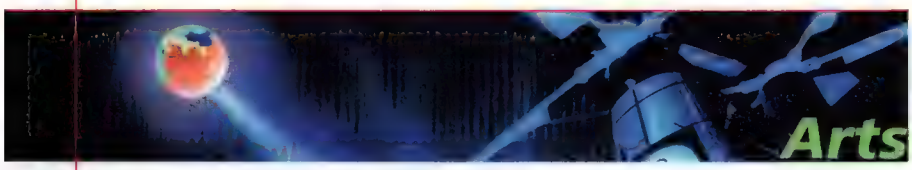
This is the online repository of extracts from the print version of Conscious Choice, a bi-monthly magazine that reports on environmental issues and natural alternatives in health care, food, and nutrition. The focus may seem to be rather broad, but Conscious Choice stresses the way all of these areas are strongly interconnected. There's a strong focus on thinking globally, promoting sustainable development and reducing the use of chemicals and artificial products in consumables. The magazine is unapologetically American in its focus, but the issues it raises really seem to transcend geography. The feature articles in this magazine are always pleasant to read and frequently display a real excellence that's not often seen in contemporary journalism. It's true that there's a slight touch of mysticism and artistic licence in some of the writing styles, but the journal still manages to retain a focus that's firmly grounded in the real world. In this regard, Conscious Choice carefully avoids toppling into the realm of mumbo jumbo and pseudoscience that tarnishes other alternative magazines. Back issues deal with themes such as water and life, knowledge and learning, cultural diversity, ageing and legislation. The feature articles themselves are a neat blend of large-scale global issues and grassroots affairs, which the magazine shows are often closely interrelated. Elsewhere at the site, read The Holistic M.D. for some free advice on natural ways to stay healthy. Well-researched and produced, Conscious Choice balances mainstream affairs with the alternatives it proposes in an approachable format.



Ask Dr. Tracy

http://www.loveadvice.com/

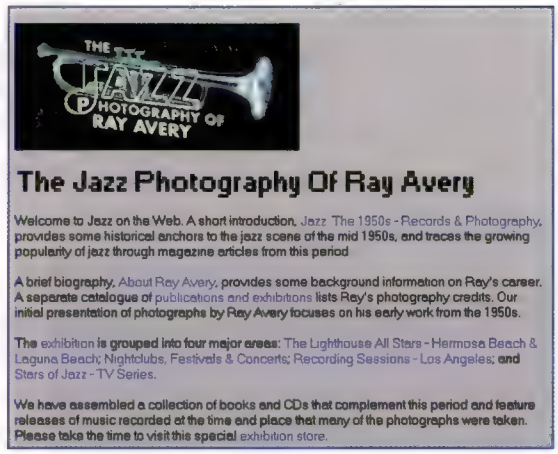
Okay, so agony aunts have been around for much longer than the Internet itself, but this Web adaptation of a successful newspaper column dealing with love, life and everything that goes with it seems to be far more worthwhile than others that *Globetrotting* has seen. Try to ignore the tacky pink background and the flagrant promotions for Dr. Tracy Cabot's books, and you will find commentaries on how to get yourself out of bad relationships, cure yourself of love addiction, find the right people to date, and avoid the pitfalls of 'CyberLove'. These files even have a keyword search option that will allow you to address any specific problem you're currently experiencing in your personal life. The text is heavily hyperlinked between different chapters and case studies of relationships that Dr. Tracy has encountered among her patients. The advice is often quite detailed and sensible, but could put some people off the idea of romance with the way it treats the subject like a car repair manual! The pages all seem to contain a small graphic of a couple about to kiss, but this is really a text-based site. If the 'Love Library' itself fails to answer your questions, Dr. Tracy runs a straightforward Q & A column that accepts submissions by email. Three questions a week are answered at the site, dealing with topics such as age differences in relationships and rivalry with others for the same person. The site is clearly not as large or as involved as a book, but it certainly delivers a lot of useful advice in a concise format.



The Jazz Photography of Ray Avery

http://www.book.uci.edu/Jazz/jazz.html

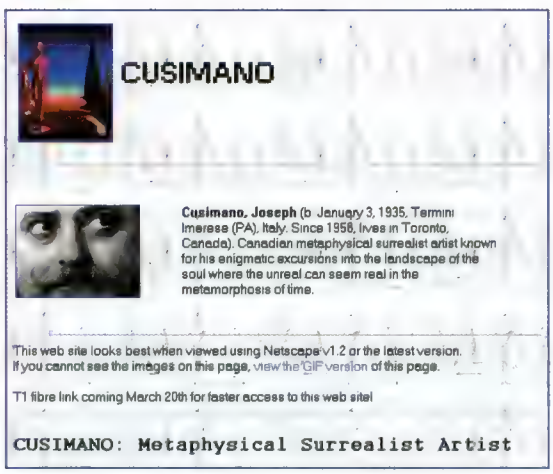
As a medium that's steeped in technology and the concept of reproducing images, photography as an art form is ideally suited to the Web. This online exhibition of jazz enthusiast and photographer Ray Avery is a valuable portrait of the jazz scene of the fifties, catalogued by a man who understood his medium and his subject equally well. The site begins with a biography of the photographer and an introduction to the jazz culture of the fifties, when this modern style of music truly ascended to the prominence it still enjoys today. The photographs themselves are mostly enormous JPEG images that need to be scrolled around your browser in order to view them properly. This preserves the fidelity of the images at the expense of convenient viewing, but the style of presentation stands out as the major flaw in an otherwise excellent site. Fortunately, thumbnail portraits of some of the performers themselves are actually included. All the photography has been made in crisp black and white. While this was primarily a result of the generally poor state of colour photography at the time, the monotones somehow seem to accentuate the profiles of the artists and the dimly lit interiors of jazz venues such as the Lighthouse Cafe, where Miles Davis and other jazz legends made some of their earliest appearances. Avery also managed to gain access to recording sessions through his contacts with producers and the musicians themselves, capturing images that are refreshingly candid when compared to normal publicity photographs. The overall layout of the site doesn't distract from the material it contains, making this a nicely compiled online exhibition.



Joseph Cusimano

http://halifax.terraport.net/archiavv/

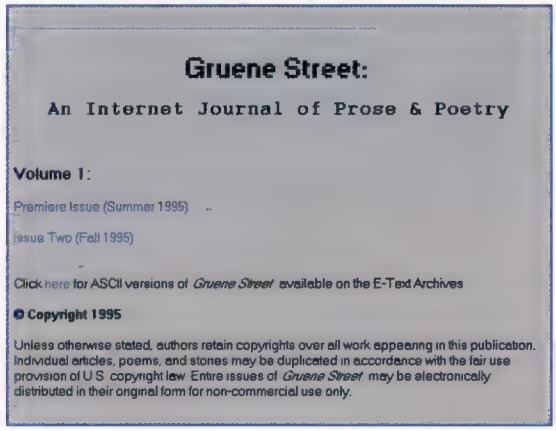
This contemporary surrealist artist isn't exactly a household word, and his art isn't instantly recognisable. However, a quick scan of his work at this neatly presented online gallery will certainly trigger the curiosity of anyone. Elements of Cusimano's style are strongly reminiscent of so much of the surrealist art that emerged in the eighties, especially on magazine covers, which could lead you to wonder how much cross-fertilisation of ideas has taken place. It's refreshing to see such an incremental approach to handling the display of graphics. The home page itself presents thumbnails of his work, which in turn lead to more thumbnails on the same theme. A viewer can elect to expand the actual artwork at his or her own discretion. Surrealism is primarily an interpretative puzzle for the viewer, but Cusimano himself has added his own commentaries on the significance of his paintings, where each element is highly symbolic. As Cusimano explains in one section, '"The Metamorphosis of Venus" (red ball - red rose, white torso - white cloud) allows our feelings to petrify (rocks) before the end of our passionate journey as a reminder to those who will follow that the present is not only embedded in the past but it also stands as a beacon for the future.' A viewer could be forgiven for failing to independently reach the same conclusions, but Cusimano's work does seem to hold more coherence and balance than other surrealist art. Cusimano's art is even up for sale, but the pricetags could lead you to think more than twice.



Gruene Street

http://ebbs.english.vt.edu:80/olp/gs/gruene.html

For a site dealing with an artistic discipline, the layout is about as plain as the powers of HTML will allow. Still, this is all about conveying the power of the printed word in the form of poetry and prose, and the plain text that resides within this site is still vivid. Greune Street pays nothing for its contributions, but this quarterly online journal has managed to avoid turning itself into a launchpad for horrible poetry that cannot find a publisher anywhere else. Indeed, much of its contents has already appeared in print journals, and displays a maturity of composition that places Gruene Street in the league of a respectable journal itself. The fiction at the site can't be dismissed as substandard, but seems to lack the same impact as the surprising and even shocking poetry that precedes it. Essays on production methods and art in general, such as the state of postmodern cinema, are worthy reads for both their academic and entertainment value, but the book reviews won't have a broad appeal. The first two editions of this journal have set a fairly consistent and rather conventional format, and literature fans will eagerly await future releases of this journal. Having enjoyed the work that's presented, a reader may feel disappointed that the contents are relatively small, but the site has neglected to include links to other literary sites on the Web. Budding poets should even consider adding their own contributions to this excellent journal.



Bowling Alley: A Cybernetic Installation

http://bowlingalley.walkerart.org/

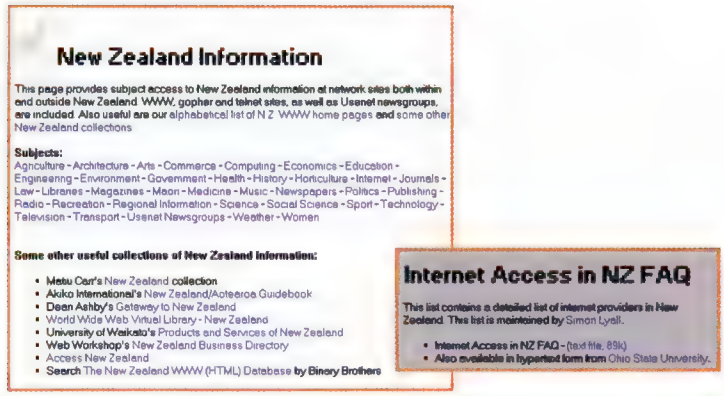
The Net has been used as a medium for some very strange works of art in the past, but this is arguably one of the most challenging uses of the technology for artistic purposes. Make sure you're using the latest version of Netscape to appreciate this site fully. The Web site is only one element in a rather complicated interplay between a genuine bowling alley in Minneapolis, a display at the Walker Art Centre in the same stare and a host of communications technologies that link this highly interactive form of art. The site reflects actual events on a bowling lane that are in turn displayed at the art gallery, where a certain amount of interplay occurs with visitors who play 'virtual bowling' with the exhibit. Don't ask us to explain exactly how the entire chain of events works when we couldn't work it all out ourselves! It's difficult to say just how this can all be appreciated as an artistic product instead of an exercise in technological tinkering, but the site is certainly worth at least a brief visit to satisfy your curiosity. The pages are constantly in a state of change and animation, but it can be difficult to say just what sort of effects the artists who contributed to the site are intending to convey. The site does warn that some subject material is suited only for mature viewers, but *Globetrotting* found only a few risque text passages buried amid the displays.

New Zealand on the Net

AS AN INDUSTRIALISED COUNTRY THAT'S HEAVILY ISOLATED FROM THE REST OF THE WORLD, IT SEEMS ONLY LOGICAL THAT NEW ZEALAND HAS EMBRACED THE INTERNET WITH GUSTO. *INTERNET AUSTRALASIA* WILL TAKE A CLOSER LOOK AT THE STATE OF THE NET IN NEW ZEALAND IN FUTURE ISSUES, BUT IN THE MEANTIME, HERE'S AN OVERVIEW OF HOW THIS NATION HAS LEAPT ONLINE.

As with so many other nations, the Internet began in New Zealand as a purely academic network in the form of TuiaNet, New Zealand's equivalent of AARNet. Since then, the Net has made steady advances into schools and homes as a small collection of home-grown ISPs take root and gather clientele. Yet New Zealand has faced problems in developing its online presence that are quite unique to this nation. Connecting New Zealand to international links has long been the bugbear of operating the networks, and has resulted in heavy charging fees in some circumstances. TuiaNet is notorious for its practice of volume charging, which leads many of New Zealand's Netsurfers to keep an eye on more than just the clock as they operate their connections. Australian users have been no strangers to volume charging in the past, but if the Net continues to expand, the practice should evaporate across the Tasman as it has done elsewhere.

The fact that the Internet has grown so rapidly in New Zealand has also given this nation the dubious distinction of being one of the first places on Earth to try to legislate against it. *Internet Australasia* has already documented the efforts of

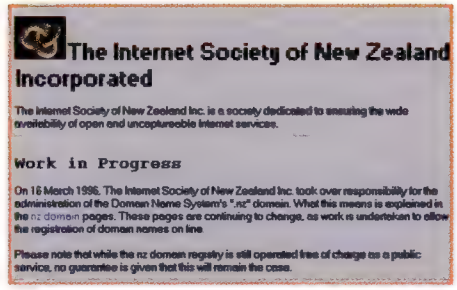


Trevor Rogers MP to attempt to control indecent content on the Net with legislation that is as pointless in New Zealand as anywhere else in the world. Rogers even went on the record as stating that he was prepared to shut down New Zealand's entire connection to the Internet if pushed to far! Fortunately, the concerted efforts of New Zealand's online community have protected their networks from such folly.

An excellent set of links for New Zealanders themselves looking for locally based information can be found at **http://www.lincoln.ac.nz/libr/nz/**. The New Zealand Information site was compiled by Lincoln University, and is an easily navigable subject-oriented list of sites.

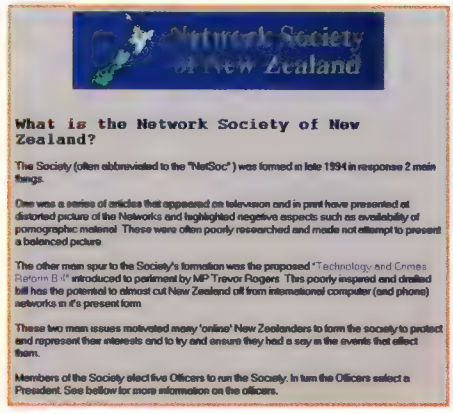
Going to the one of the highest sources of authority, the Internet Society of New Zealand is the body charged with domain name registrations, and is associated with the US-based Internet Society that supervises global Internet development. This group has a very modestly designed Web site at **http://www.isocnz.org.nz/isocnz/**, but please keep in mind that ISOCNZ isn't really aimed at Internet users working at a grassroots level. Defending the Internet with a vigour comparable to that of Electronic Frontiers Australia, the Network Society of New Zealand has played a major role in correcting the misconceptions held about the Internet amongst the general public and the government. Visit them on the Web at **http://iconz.co.nz/nsnz/**, and join their campaign.

If you're just getting used to the idea of the Net and only want to dip your toe in the water, visit one of New Zealand's growing stable of cybercafes. In Auckland, try the Cyba(TM) Cafe at 24 Nelson Street, or call them on 379 6282. In Palmerston North, the Surfside Internet Cafe can be found at 406 Main St. Their telephone number is 356 9571. Residents of Wellington can visit the CyberSpace Internet Cafe at 31 Panama Street. Call 499 8560 for further information. Hamilton does not appear to have a genuine cybercafe, but the Hamilton Public library offers access to the Net for a fee, and also runs training courses.



For general information on gaining a connection, the Internet Access in New Zealand FAQ can be found in two versions at **http://www.dosli.govt.nz/lists/nz-isp/**. Make your selection of either a fairly large text file or browse it in hypertext format. New Zealand users and most Australians with a connection should be able to access New Zealand's local newsgroup hierarchy. Although there are well over a dozen local groups, we recommend **nz.general** as a great place to start. Fortunately, the practice of crossposting material to this group along with Australia's local groups appears to be in decline. Focusing on the IT community, visit **nz.comp** for computing discussions. The groups **nz.net.announce** and **nz.net.admin** deal with online matters. Finally, if your newsfeed does not support regional hierarchies outside of your own, join locals, New Zealand expatriates and aspiring visitors to the country on **soc.culture.newzealand**, a high-traffic group that suffers more than its fair share of crossposting (particularly from the USA) and general noise.

It's great to have our new readers across the Tasman aboard, and we look forward to exploring the Net in New Zealand in the future.



globe-trotting

IN NEW ZEALAND

Useful Music Resources

New Zealand Government Web Pages

Planet's Edge

Discover New Zealand

Aotearoa Directory of Services

Television New Zealand Online

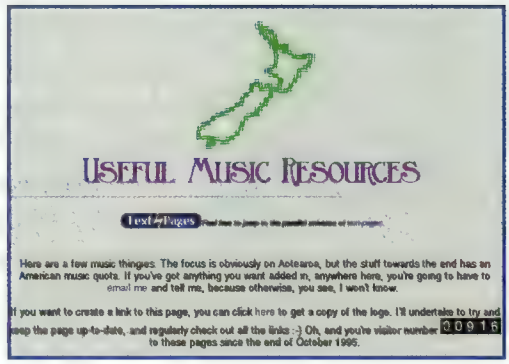
The University of Waikato

NZ Explorer Mount Ruapehu

Useful Music Resources

http://www.vuw.ac.nz/~jonathan/usemusic.html

It's nice to see music reviewed and explained by a fan who truly loves the bands his home country has produced. Jonathan Milne not only knows his noise, but is quite Web savvy too. See his review of New Zealand's Big Day Out concert and his rather scathing comments on some of Australia's more popular local acts. Bull's Bus Terminal is a parody of a local transit point that serves as a jump point to biographies and discographies of some of New Zealand's most prominent acts, many of which receive little airplay or press coverage outside of their homeland. Everyone knows of Split Enz, Dave Dobbyn and Crowded House, but you'll be introduced to The 3Ds, ALT, Cyclops, The Chills and Bailterspace. Selecting the text-only option is probably a good idea if you're wary of bandwidth and any additional charges.



New Zealand Government Web Pages

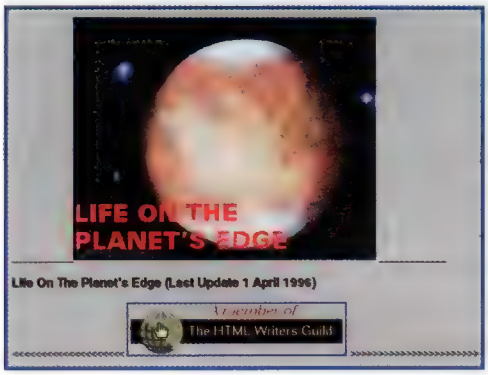
http://www.govt.nz/

Any official government page has to feature a certain structure and contents, and New Zealand's has conformed to a pattern that was nicely established when the White House went online. The New Zealand government manages to appear informative without producing endless pages of portraits and pointless statements that clutter political Web sites in other parts of the world. It's disappointing that only one New Zealand MP seems to have a personal home page outside of the government's own site, but the uptake of the Internet by politicians in other parts of the world is generally no greater. At least every politician has a brief biography on the site. Jump to the parliamentary home page for speeches and press releases that appear almost every day. Prime Minister Jim Bolger's personal page is fairly superficial, but don't expect to be able to send him an email. 'If ministers accept email as well as paper letters the volume of correspondence may increase very significantly', warns the site. 'However the costs of replying to each of those emails will be at least as great they are for paper correspondence. It is questionable whether would be a good use of resources.' So much for the future!

Planet's Edge

http://www.central.co.nz/~kameleon/

Oops, that's really the planet Mars in the title, but the wacky nature of this very creative site will quickly stop you from worrying about this. This site is the creation of The Kameleon, a pseudonym for a female American computer engineer who's currently living in New Zealand and apparently still suffering from culture shock after eight years of the place. Kameleon has managed to keep up a steady pace with her political activism in both her new country and her old one, and delights in pointing out the differences between the two. Read Kameleon's rantings, which are sometimes quite wise, sometimes quite silly, and often difficult to understand without a lot of background information. Just who is the mysterious PV who is mentioned so often? Certainly, this site won't appeal to everyone, but this is a nice local example of someone using the Internet as their personal soap box, for better or for worse. Browse through Kameleon's list of personal links, some of which are crazier than her own material, and if you feel inclined, send her an email yourself!



Discover New Zealand

http://www.us.discovernz.co.nz/discovernz/

This magazine leads a simultaneous existence in a printed and an online format, but you'll gain so much from the Web version that one may wonder if you would ever wish to subscribe! Discover New Zealand provides a wealth of information for intending visitors to New Zealand, but we're sure that local residents exploring different parts of their own country will enjoy this too. Read the basics of travel requirements and the culture of New Zealand in HTML articles that resemble anything from a travel guidebook. New Zealand may be legendary for its snow-covered mountains and great skiing conditions, but Discover NZ suggests that diving is the country's most underrated sport in the eyes of the world. Along with the predictable details of where to buy souvenirs and find travel agents, you will find Events On-Line, New Zealand's best compilation of local events on the Web. With some listings extending as far as two years into the future, this directory is an ideal way to plan a visit.

New Zealand / Aotearoa Directory of Services

http://nz.com/webnz/

New Zealand Internet Service Provider Akiko have produced an interesting directory of some of their major clients, and the result is useful for anyone online who's looking for services. Akiko place listings of good pages in the Gold section, and even better ones under the Platinum heading! Fortunately, Akiko seem quite happy to list some sites that aren't even under their own domain, from tomfoolery like the Wellington Fringe Festival through to New Zealand's other Internet Service Providers who are often in direct competition with them! The rush onto the Net that has gripped the commercial sphere in other parts of the world hasn't been lost here, and you could be surprised at what you'll find among these directories. The Internet is certainly a great way to place any organisation on a level playing field, and there's a lot of creativity out there emerging from companies that may have as little as one person within them. Akiko have generally been non-judgmental within the two categories, but a site must clearly pass some reasonable judgment criteria to be included.

Television New Zealand Online

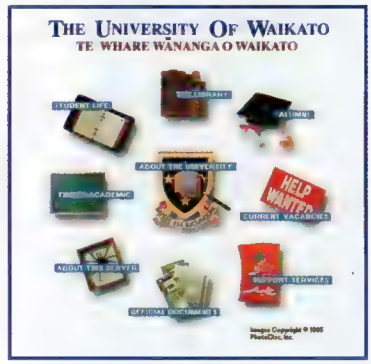
http://tv.nz.com/

A well-designed site that's heavy on the graphics, this is unquestionably a commercial production for a commercial entity. Television New Zealand's online presence is filled with sections dealing with programs and the group behind them. Jump first to the News section and then to Stories for an online round-up of today's top stories from the network's own reports, complete with the occasional still image. Browse through previous top stories from earlier broadcasts in the week. NZTV also carries weather reports that aren't necessarily any more accurate than what you'll see on the box. Probably the most popular part of the site is the program guide for channels one, two and regional broadcasters. Surf your favourite programs and TV personalities, and try NZTV's cool links page for sites relating to entertainment around the world. The site has a search option, an essential feature of any site as large as this, and generally conforms to all of the rules of a standard high-quality Web production.

The University of Waikato

http://www.waikato.ac.nz/

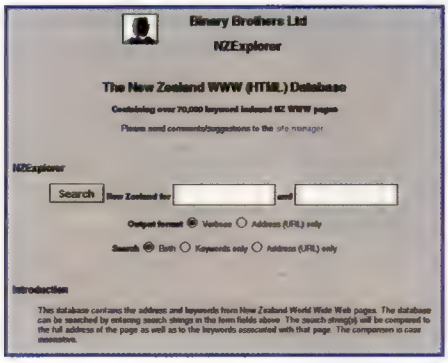
Whether you're a student or not, this excellent home page stands out as one of the most creative introductions to a faculty of education anywhere on the Web. The University of Waikato is a booming tertiary institution of more than 10,000 students. This university was the birthplace of the Internet in New Zealand, and the site proudly contains several links that outline the evolution of connectivity around the country. Waikato is also the driving force behind WeNET, a project to enhance the use of the Internet in New Zealand's schools. Browse through the home pages of schools that have already joined the project, or contact the University yourself if you're interested in joining. The University also hosts pages for the New Zealand Internet Exchange and the Internet Society of New Zealand. visit the School of Computing and Mathematical Sciences online, and you can explore an extensive anonymous FTP archive. Browse through pages on campus life and student services, which are essentially the same as any university in the Western world.



NZExplorer

http://bitz.co.nz/bitz/explorer/index.html

A search engine for the Web pages of New Zealand, this online navigation service currently has links to over 70,000 Web pages located on servers within the country that fall within the domains of '.nz' or '.nz.com'. The search engine returns a maximum of 50 hits when operating in its normal 'verbose' output mode, but select the URL-only option and you will be amazed at how many returns you receive! Using NZExplorer is thus a case of trying to produce a balance between the extremes of too many or too few references, but a little intelligence on the part of the user should be enough to gradually narrow down a search. NZExplorer is based on a program written by Paul Bourke at the University of Auckland, and the software behind it is available for purchase or rent. Access restrictions and the resources available to NZExplorer mean that this program can't possibly hope to document the entire Web in New Zealand, but the index certainly has enough material to produce an output for almost any request. Search NZExplorer and if your personal page isn't listed, submit the URL using the entry space on the title page.



Mount Ruapehu

http://www.mocd.govt.nz/mocd/ruapehu/ruapehu.html

Last year, New Zealand was able to offer the world a site that was literally the hottest link on the Web. A video camera sent live footage of the eruption of Mount Ruapehu onto the Net, and thousands surfed in for some remote action. Fortunately, the mountain has since returned to silence, but you can still catch a piece of the action at this site from New Zealand's Ministry of Civil Defence. Read through new bulletins from those dramatic days in November, when much of the crisis had passed. Curiously, the mountain had previously erupted fifty years ago, and has been known to be volcanically active since humans first inhabited the region. You may soon tire of the Civil Defence material here, so jump to the Wellington City government pages about the eruption. This features still images culled from news broadcasts that are probably copyright violations, and a link to another site at ISP Actrix that held the infamous 'Volcano-Cam'. Few natural events have been documented this well on the Net, and the images seem almost as exciting today as they did when they were taken.

REC.G@MES

JOSEPH GRANT BELL

PRENTICE HALL · ISBN: 1-56686-311-2 $28.95

If the aforementioned gaming book focuses heavily on just two main titles, this generic approach to gaming and games-related material on the Net attempts to cover the entire spectrum in a superficial format. It certainly won't be the ultimate guide to playing your favourite online games, but *rec.g@mes* is probably the best starting point to find them. Understandably, one third of the book is dedicated to MUDs, but the detailed instructions that are truly required to play these games effectively hasn't been reproduced. Predictably, the book then moves on to Netrek, which is covered with less detail than in the aforementioned book, but the reader will certainly gain enough to get started. Another action combat game, Bolo, follows next, and is given a same user manual-style treatment. VGA Planets, a play-by-email space strategy game, is covered far better than in most online games references, and is often totally ignored elsewhere. In all these games, screen captures and tables are used effectively to help a player quickly understand the operations. So many play by email games exist that it would be pointless for a book to document them all, but the chapter dedicated to these games is filled with references to sites on the Net itself where you can find out more. XPilot rounds off a nice tour of the world's original set of networked games, but the book also lists resources for flight simulators of various persuasions that aren't actually geared for networked playing. Doom features a chapter to itself, as well as the card game Magic: The Gathering and the futuristic combat game BattleTech. Resources for chess and generic games round off a very satisfying tour of online gaming resources on the Net that Imprint really enjoyed.

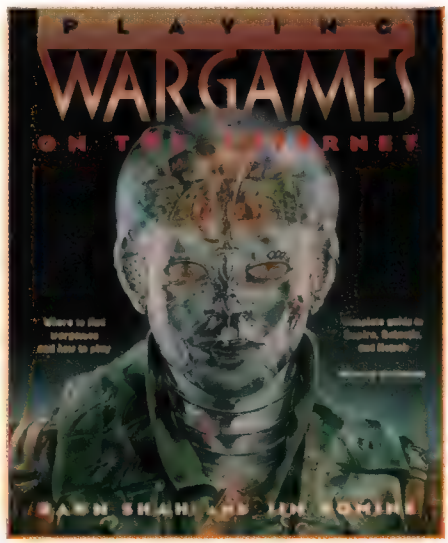
Understandably, one third of the book is dedicated to MUDs...

PLAYING WARGAMES ON THE INTERNET

RAWN SHAH AND JIM ROMINE

JACARANDA WILEY · ISBN: 0-471-11634-3 $33.95

Shah and Romine are the authors of a guide to Multi-User Dungeons (MUDS - See Imprint, August 1995), and have managed to infuse their second online gaming guide with the same level of energy as before. Filled with detailed studies of the games along with screen captures, this book is an outstanding guide to playing free online games that is actually superior to the documentation that's supplied with most commercial software. The guide opens with Empire, a geopolitical struggle for world domination that blends combat skills with economic management. The authors clearly have a lot of experience with the games they discuss, bringing their personal viewpoints on various editions of the game and the improvements that have gradually been made to its structure. The instructions for Empire alone occupy well over half of the thickness of this entire book, but the authors can hardly be blamed for this. Empire is a highly complex tactical simulation that's comparable to the wargames that generals themselves run for less recreational purposes, but the involvement it demands from a player will probably deter many from ever trying it out. The faced-paced video game Netrek comes next, with a promise of more action for less training. The book lists certain servers that are frequented by the game's most experienced players, advising new players to avoid these locations if they wish to stay alive! Again, the authors go beyond merely documenting the rules to convey their hard-won wisdom on the best strategies to use. One may feel a little disappointed that only two basic games concepts are covered here, but these games form the cornerstone of classical Internet gaming, apart from MUDS themselves.

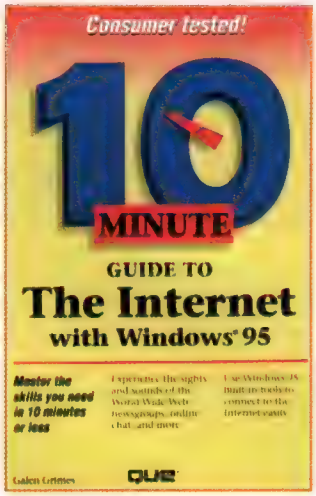


10 MINUTE GUIDE TO THE INTERNET WITH WINDOWS 95

GALEN GRIMES

PRENTICE HALL · ISBN: 0-7897-0663-6 $21.95

Doing an 'Around the Net in 80 Minutes' routine is a common stunt in most introductory guidebooks, and Imprint has frequently mocked the results in its reviews. The 10 minute tour advertised in the title is certainly misleading, but this book still manages to provide a concise overview of the Internet and how to reach it with a Windows 95-equipped platform that's superior to other quick tours we have encountered. The book should be avoided by absolute beginners to computer technology in general. You should already feel comfortable with PCs, DOS, Windows, and its latest incarnation. You will also need to understand modems and a little about networking. Clearly, this is not really an introduction to the Internet itself but a manual for the experienced user who is mastering the Net in a new environment. It starts with instructions on how to install the Windows 95 TCP/IP client, moves on to configuring it for a SLIP or PPP connection, shows you how to set up the dial-up routines and introduces the Internet Setup Wizard. Using FTP, email, Microsoft's Internet Explorer and other Net fundamentals completes this thin book. The two-tone layout and design is highly pleasing to the eye and certainly enhances the clarity of the text. Screen grabs are common and are strategically placed. The 'talk-you-through' approach makes this book ideal for keeping next to the terminal while you load the software and configure it for your account. The book is clearly designed to fit in smoothly with this process in real time, instead of being a reference manual that's kept away from the terminal. The only major gap in this text is the failure to provide anything comprehensive on the ISPs themselves, yet this internationally distributed title can hardly be expected to do so.

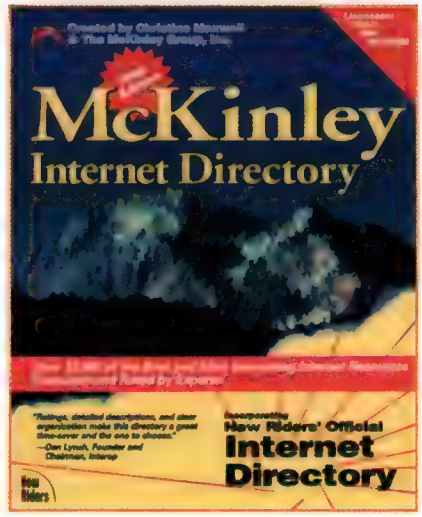


McKINLEY INTERNET DIRECTORY

CHRISTINE MAXWELL

PRENTICE HALL · ISBN: 1-56205-439-2 $84.95

This Internet directory is hardly the first reference book to model itself on the Yellow Pages, but the cliched formula that we've seen so many times before still seems to work quite well. This is a guide to online resources in various forms, from the Web to mailing lists. Forget about silly lists of cool sites or weird stuff. This book doesn't try to hype itself or the medium it describes. Fortunately, the dry precision of its message manages to clearly convey just how much is really out there, which probably makes this more engrossing than Net books that try to exploit the excitement factor. Pick any topic from the contents page or the well-composed index in the rear. Turn to the appropriate page, and you will find a loose collection of online resources that are presented as short descriptive paragraphs in tiny, telephone book-style print. Each listing is accompanied by keywords, a comment on the intended audience for the material and a contact name with an email address. Each entry also has a star rating, with four stars indicating an excellent site. Screen captures appear occasionally, but are quite rare. Curiously, the author has chosen to detach sections dealing with newsgroups and mailing lists from the rest of the text, possibly because these resources are less static and cannot be appraised as precisely as a passive information file. The author has obviously tried to cram as much material as possible into this rather thick text, and a researcher who truly wants to find solid information instead of just surf randomly will appreciate this. A glossary of Internet terms at the rear is so detailed that it almost qualifies as a separate reference manual in its own right. The price of the text will certainly deter some customers, but as a reference book it would be an excellent part of any collection dealing with the Internet.



The price of the text will certainly deter some customers, but as a reference book for libraries, this book would be an excellent part of any collection dealing with the Internet.

HANDS-ON NETSCAPE

DAVID SACHS & HENRY STAIR

PRENTICE HALL · ISBN: 0-13-240284-X $74.95

So many users regard Netscape as a plug in and go software application. Indeed, the relative ease of use of Netscape and its predecessor, Mosaic, has been one of the principal factors in making the entire Internet user-friendly. With this in mind, it may seem ludicrous to publish such a thick book to explain how to use this graphical software, but the authors have produced what could be the ultimate guide to using Netscape and the Internet itself. Every single option, function, error message and effect that a user will encounter with Netscape is documented with a high level of precision, even when some concepts seem to be self-explanatory. The thickness of the book may intimidate you, but you will be surprised at how quickly a reader will move through the text. The book manages to gradually introduce every function of the Internet itself alongside its descriptions of Netscape's own operation, and gives excellent treatment to the multimedia side of using the Web. The highly explicit descriptions and screen captures have given an artificially large appearance to the material, which could be covered in half as much space at the expense of a loss of detail. Adding to the explicit clarity of the book is a CD ROM containing QuickTime video tutorials of the software in operation. There's also an introduction to HTML and writing your own Web pages. The only problem with this excellent book is the frequency with which Netscape themselves are constantly updating and changing their Netscape Navigator browser. There's no mention of frames or any of the advanced effects possible with Netscape's latest releases, which could give this book a very limited shelf life indeed. Time for version 2, David and Henry? Imprint thoroughly recommends this book as a guide to the earliest versions of Netscape, but advises buyers to look out for any future editions in preference to this one.

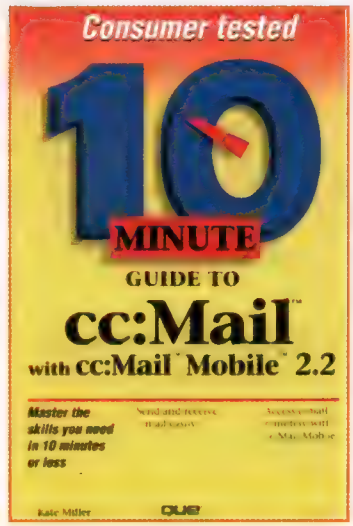
There's no mention of frames or any of the advanced effects possible with Netscape's latest releases, which could give this book a very limited shelf life indeed.

10 MINUTE GUIDE TO CC:MAIL

KATE MILLER

PRENTICE HALL · ISBN: 0-7897-0458-7 $21.95

This guidebook is about as specific for its application as a Net guide can be. Focused squarely on this single but highly popular email program, this second 10 Minute Guide reviewed in this issue of Imprint manages to preserve the same excellent standard. Evidently, a strong editorial policy has been consistently applied in the titles, and Imprint wonders if 10 Minute Guides will eventually achieve the same status as the *Dummies* guidebooks. When it's properly understood, email is fairly straightforward to manage, and it's possible that a user with a degree of Net familiarity could easily digest the most significant points of this book in the advertised time. Move no more than 25 pages into the text and you should be reasonably comfortable with using the software in its most basic mode. cc:Mail is a highly powerful system for creating and managing email documents, boasting some features that are outside the capabilities of some word processors, and the majority of the text is an exploration of its more advanced functions. Handling different fonts, attaching files and prioritising messages are all treated well. The book also takes a detailed look at using cc:Mail in a mobile mode, allowing users to retrieve their email from remote locations. Some of these chapters will contain absolutely no surprises for users with a thorough grasp of email operations, but even an experienced user who hasn't used cc:Mail itself will find every part worthwhile. Newbies to the entire process are equally well catered for, as the book systematically describes the operations of email itself alongside its comments on this specific program. Mailing lists are also mentioned, but a few comments on email style could have rounded off an otherwise excellent book.



net.search

WILLIAM EAGER ET AL.

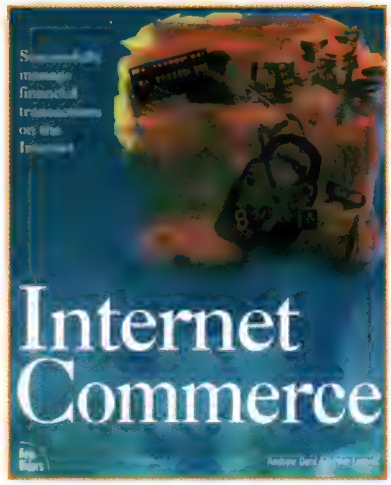
PRENTICE HALL · ISBN:0-7897-0242-8 $34.95

It's somewhat ironic that a Net user needs to search through this manual in order to perform a search for something useful afterwards, but accessing information directly remains one of the greatest problems with the rapid growth of the Net. Finding information is easy, but finding exactly what you want isn't always possible. This guidebook to search methods manages to avoid degenerating into a boring librarian's manual and will hold the reader's attention throughout. What's most worthy of attention is the way this book emphasises the human element of searching the Net. Computers aren't any smarter just because they are networked, and a skilled navigator needs to take into account the impact of semantics, linguistics and even the right place to start looking. The book begins with a peek at Web-based search engines, a field that has positively exploded in recent months with the introduction of so many new sites. Unfortunately, the book does show its age here. Gopher, Veronica and WAIS make their appearances in a predictable format, and Archie is covered quite well. FTP is examined in a considerable amount of detail, including ways of handling files and uncompressing them. Methods of examining audio, video and graphics files using viewers, players and browsers is treated as well here as in some books that are dedicated to almost nothing else. Newsgroups are often one of the worst places a user can go for useful information, but this book covers them in an objective and useful format. Netiquette and the use of FAQ files are spelled out with precision. Mailing lists are treated just as well. Commercial searching services that require subscriptions and payments are examined, but the proliferation of free search engines that are just as powerful makes some of these chapters seem a little redundant. The book has a strong emphasis on using Netscape, but this is hardly out of place.

INTERNET COMMERCE

ANDREW DAHL & LESLIE LESNICK

PRENTICE HALL · SBN: 1-56205-496-1 $39.95



Ho hum, said Imprint at first, surely the market doesn't need yet another book to tell the masses that there's money out there on the Net. Fortunately, this book takes a far more realistic view of the situation than other texts Imprint has examined in the past. There is a clearly optimistic tone here, but any suggestions that a Web site will instantly attract millions of wealthy clients has been dispensed with. The book is filled with sensible warnings on how to avoid being lost in the hype, as well as some of the most common problems that companies make when they are starting out on the Net. Coming more than a year after Internet commerce truly began, the book is also able to back up its claims with genuine statistics. Readers will be encouraged by the Net demographics described herein, but the rapid pace of change will ensure that their shelf life is rather limited. The book takes a very optimistic view of anonymous digital cash systems such as DigiCash, an area of commerce that probably won't be as dramatic as the authors suggest. Similarly, the book acknowledges the problems that restrictive export laws in the USA pose for secure cryptography systems, but can't expect to be as current as a news report. The style of the writing is very user-friendly, but the book never degenerates into silliness. The major criticism Imprint can make of this guide is its heavy focus on the use of the Web as an online storefront. Admittedly, this is an obvious way to use the Internet in a commercial arena, but it's hardly the only method. A failure to explore the full range of Net applications could blinker the new user who doesn't have a helping hand. Yet the advice it provides in the fields it covers suggests that the authors have a fair amount of experience. Generally, this is a balanced introduction to the idea of using the Net for profit.

Ho hum, said Imprint at first, surely the market doesn't need yet another book to tell the masses that there's money out there on the Net.

NewScientist

PLANET SCIENCE

Visit *New Scientist's* Planet Science and discover why over half a million people worldwide read *New Scientist magazine* every week

http://www.newscientist.com

total access @

CIENCETECHNOLOGYCOMPUTERSENVIRONMENTMEDICIN

For the full story and all the facts subscribe to New Scientist Magazine.

Please enter my subscription to *New Scientist Magazine* for the term indicated below:

☐ 24 weeks for A$75/NZ$124 (20% discount off newstand)
☐ 51 weeks for A$150/NZ$248 (24% discount off newstand)

Mr/Mrs/Miss/Ms: FIRST NAME SURNAME

Job Title:

Company:

Address:

Postcode:

Tel:. Fax:

☐ *Please tick here if you do not wish us to pass on your name for direct marketing promotions from companies. If you wish to cancel your subscription at any time we will refund the unused portion of your money.In many instances subscriptions are tax deductable. Ask your accountant for details.*

PAYMENT METHODS (please tick)

☐ Cheque enclosed payable to New Scientist for A$/NZ$

☐ Please invoice me for A$/NZ$

☐ Please debit my: ☐ Bankcard ☐ Visa ☐ American Express

☐ Dinners ☐ Mastercard for A$/NZ$

Card No: ☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐

Expiry:

Cardholder's Name:

Signature:. NS96PSI

Beginners' Guide

Proudly sponsored by:

Woodslane Press

BEGINNERS GUIDE TO CYBERSPACE

CONTENTS

ABOUT THE INTERNET: WHAT IT IS • HOW IT WORKS • WHAT IT IS USED FOR • .WHO CURRENTLY USES IT • HOW MANY USERS ARE THERE?

INTERNET APPLICATIONS: WORLD WIDE WEB • FTP • NEWSGROUPS • EMAIL • TELNET • GOPHER • IRC

GETTING CONNECTED: WHAT HARDWARE DO I NEED • WHAT SOFTWARE DO I NEED • HOW DO I CONNECT

SURFING THE NET: BROWSER • BOOKMARKS • VIEW SOURCE • SEARCH ENGINES

ABOUT THE INTERNET...

The Internet is a collection of computer networks that spans the globe.

WHAT IT IS?

Like a telephone systems that allows people to call from almost anywhere to any part of the world, a computer connected to the Internet will allow its users to exchange information with one another.

The thousand of different host computers connected to the Internet are all able to communciate successfully because they share a common method of communciation, knoiwn as a protocol. For the Internet, this si TCP/IP (Transmission Control Protocol/Internet Protocol)

HOW IT WORKS

The Internet functions as a packet-switching network.

This means that data is sent between different computers in small, easily managed sections that are re-assembled at theri destination to form a complete transmission. Each packet consists of a string of digital bits convey data as well as the identification of their intended destination on the network. Packets usually jump between several different computers before they arrive at their target, like abaton passed between relay runners.

WHAT IT IS USED FOR

The Internet offers its users a method of communicating and sharing information that is both fast and cost-effective.

Just as a road can carry many different vehicles and commodities, the Internet is used for several different applications, and more are being developed. It's important to distinguish between the Internet itself, which is a physical communications infrastructure, and the names of the applications that travel across it.

WHO CURRENTLY USES IT

People use the Internet for recreation, such as 'surfing the Web', academic research, education and even online commerce.

In its earliest years, the Internet was only used by scientists at laboratories and universities, who created the Internet to share information. Later, as computer networking became commonplace, its use expanded into the business community. Access prices began to fall in the nineties, which made it possible for home computer users to connect to the Internet. The user demographics are gradually shifting from young male computer buffs to the makeup of the community in general.

HOW MANY USERS ARE THERE?

As a rough estimate, it has been calculated that there are more than 800,000 Australians connected to the Internet, and more than 45 million people worldwide.

Because there is no central control over the entire Internet, it is difficult to conduct a precise census of its users. Surveys and estimates are taken regularly, but the Internet grows so quickly that the results are out of date before they are published. Australia is currently the fifth largest user of the Internet.

INTERNET APPLICATIONS...

One of the most popular applications of the Internet is accessing information files on thousands of different topics using a system called the World Wide Web.

WORLD WIDE WEB

The Web, as it is commonly known, is a system for displaying pages containing text and illustrations.

Sometimes, sound and animation is also added. Viewing a Web page is like seeing a video version of a magazine page, and thousands of people have written their own Web pages. Reflecting the anarchy of the Internet itself, anyone can create a Web page that can be accessed from any user with an Internet connection. Our Globetrotting section shows examples of some of the best sites you will find on the Web. The Web uses a mechanism called hypertext to 'link' its pages together. Click on a highlighted word or section of a Web page, and you will 'jump' to another page that could be located on another continent. Web pages on similar topics are often linked this way to allow a user to easily find material that's related. To use the World Wide Web, you will need a Web browser program (like Netscape) that displays the pages. Each page on the Web has a unique address called a URL (Uniform Resource Locator) that a user can type into a browser to retrieve it. An example of a URL is **http://www.interaus.net** for this magazine's own home page on the Web.

FTP

Or File Transfer Protocol, is a system for retrieving files of information that reside on computers hooked to 'the Net'.

This is not as exciting as using the Web, but is useful for retrieving software files and large documents. It's similar to swapping disks between different computers, but the entire transfer takes place using an FTP application at both ends. Using FTP requires a user to enter the name of the host computer being accessed (like plaza.aarnet.edu.au), and then scan through directories at the host like reading a directory on a hard drive. Usenet, Netnews and newsgroups are terms used to describe the same Internet application.

NEWSGROUPS

Newsgroups are like a cross between a bulletin board and CB radio, allowing people to write messages and opinions that can be read around the world.

There are over 15,000 different newsgroups dealing with any topic of interest that a user could dream of. Naturally, many of these are silly and pointless. A user can write a message and 'post' it to a group. Anyone else connected to the Net who reads that group can see it. Like a delayed conversation with people sticking notes on a wall, the messages gradually accumulate. Most comment or elaborate on a point made in an earlier message. Messages are normally visible for around two weeks before they disappear from the host computers that carry them in order to make space for new ones. Newsgroups are designated with hierarchical titles like **aus.general** (Australian discussion), **comp.security.misc** (computer security) and **rec.sport.rugby.league**. Newsgroups can be accessed with special newsreader software, or Netscape.

EMAIL

Electronic mail, or email, is a method of sending messages to one or more people whom you select as recipients.

Using email software, a message is typed and sent to another user by means of an email address. This is a code that identifies the user and the Internet host computer where that user connects to. Examples are **ed@interaus.net**, **president@whitehouse.gov** and **robot@magna.com.au**. The @ symbol serves as a divider between the user's login name and the domain name (Internet address) of the host computer. Unfortunately, email addresses are not stored in directories as conveniently as telephone numbers, although several groups are trying. If you do not know someone's email address, the best way to find out is often to contact them through other means to begin with! The same software that allows you to send messages also receives the mail. When email is sent to you, it is stored on a server (a computer connected to the Internet) operated by your connection provider, which operates like a post box. When you connect your own computer to your provider, you can download any messages to your own computer.

COMPLETE THIS COUPON FOR YOUR CHANCE TO WIN

A FREE 12MONTH SUBSCRIPTION TO Internet Australsia & A FREE copy of "Internet for Dummies"

Name:
Address:
Telephone: Occupation: Email:

QUESTION: What information would you like to see included in our Beginners Guide?
ANSWER:

Post to: BEGINNERS GUIDE
INTERNET AUSTRALASIA
GPO BOX 2518
SYDNEY NSW 2001

Proudly sponsored by Woodslane Press

TELNET

Telnet is a function that allows you to access another computer system hooked to the Internet remotely.

This is useful for accessing services such as library catalogues, information services and Multi-User Dungeons (MUDs), a crude form of real-time interactive environment that is often used for games, education, or even 'virtual seminars'. Your Telnet program will act as a relay for your keyboard commands to the system you have reached, and mimic the screen display of a user hooked to the system from a terminal at the same site.

GOPHER

Gopher is an information indexing and retrieval system that's used to retrieve archived information.

Gopher can be accessed through special Gopher software or through general Net browsing programs such as Netscape.

IRC

Or Internet Relay Chat, is an online chat system that allows you to type comments to other users in real time.

The system operates like a telephone party line, except that text is used. IRC is different from newsgroups in that messages are constantly being updated every minute, and what was said an hour ago will not be visible.

GETTING CONNECTED...

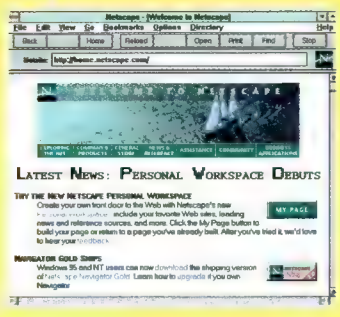
WHAT HARWARE DO I NEED?

To access the Internet as a home user, you will need a fairly powerful personal computer (PC or Macintosh) and a modem.

A PC with at least the power of an Intel 386 processor is strongly recommended. You will also need a **modem** to connect your computer to a telephone line, and subsequently to the Internet itself. We recommend that your modem should be capable of transmitting data at a speed of 28.8 Kbps (Kilobits per second) if you intend to use data-rich applications such as the World Wide Web. However, many users cope well with a 14.4 Kbps modem.

WHAT SOFTWARE DO I NEED?

As a minimum requirement, you will need a dialler program that will allow you to use your modem to connect.



The software you need to use the Internet will depend on what you want to do with it. This allows your computer to carry data according to the TCP/IP protocols. Other software will allow you to perform different tasks. We recommend that you obtain a browser such as Netscape or Microsoft's Internet Explorer, that will allow you to access the Web and other functions. Keep in mind that some software can be used for accessing more than one type of Internet application, but others can only be used for one. Like cars and trucks, there are many different types and brands of software that can be obtained for the same purpose.

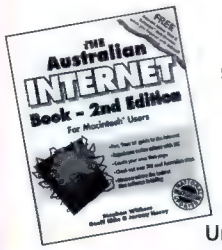
HOW DO I CONNECT?

You will need to obtain an account with an Internet Service Provider (ISP).

An ISP offers a connection to the Internet that's accessed by dialling up the provider through the telephone (a 'dial-up' account) for a regular fee. Each ISP has its own pricing structure, but most are based on a charging rate for the amount of time you use. Comparing the merits of different ISPs is a difficult process, as it depends on your personal needs, finances, service, bandwidth and reliability. Consult the list in the back of this magazine for details. Your ISP should be able to supply you with the software you will need to connect to them and use the applications they provide. It is usually simple to install. As a dial-up user, you will access a SLIP or PPP account. SLIP stands for Serial Line Internet Protocol, and is 'live'. This allows interactive Internet applications like the World Wide Web and IRC to be supported. PPP stands for Point to Point Protocol. From the home user's perspective, its performance and method of operation is very similar to SLIP, and if you have a dial-up connection with a service provider, there is a good chance that you may not know if you are connecting to a SLIP or PPP account. So, what are the differences? Basically, PPP is a more advanced communications protocol that overcomes some of the shortcomings of SLIP. PPP is slightly faster, and offers better data compression and error detection. PPP is also an official industry standard. If your ISP offers you the choice of either a SLIP or PPP connection, you are advised to take the latter. However, you are unlikely to notice that either form of connection is substantially different from the other in normal use. Using a standard telephone line is popular because they are so common. However, serious users of the Internet often prefer to use something more robust. ISDN stands for Integrated Services Digital Network. This is a high-speed data connection that does not operate with a standard modem. ISDN can operate in a dial-up mode, where a connection to an ISP is only established when a user wishes to connect to the Internet, or via a semi-permanent connection, where the ISDN connection to the Internet is effectively always active. ISDN is normally used by businesses rather than home users, as establishing an ISDN connection in Australia has traditionally been expensive. However, costs are expected to drop very soon. Our ISP list also mentions Frame Relay. This is a very high-speed data communications protocol used for very high-bandwidth applications, such as all the traffic from a single ISP to the rest of the Internet. As a home user or an average-sized business, you will have little reason to make inquiries or worry about Frame Relay.

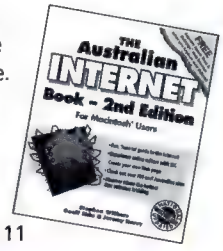
GET CONNECTED

With Australia's Bestselling Internet Books now for Windows® and Macintosh® Users



To use the Internet effectively you need to first grasp the basic concepts, then master a range of software tools. This comprehensive book explains in clear, simple language what the Internet is, how to acquire the skills needed to communicate with other users and how to enjoy the vast amounts of information available.

Written by two of Australia's leading technology journalists Geoff Ebbs and Jeremy Horey these updated and expanded second editions give you all you need to understand and use the Internet under Australian conditions.



Available from computer book resellers • Published by Woodslane Press

Unit 7/5 Vuko Place Warriewood NSW 2102 A.C.N. 003 677 549 Phone (02) 9970 5002 Fax (02) 9970 5111

Windows is a registered trademark of Microsoft Corporation. Mac is a registered trademark of Apple Computer, Inc.

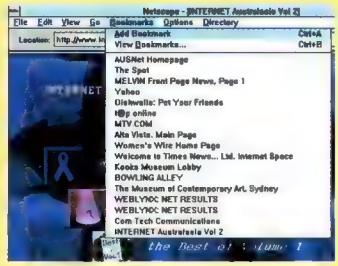
SURFING THE NET...

THE BROWSER

About 85% of Internet users access the Net with some version of Netscape (internet browser).

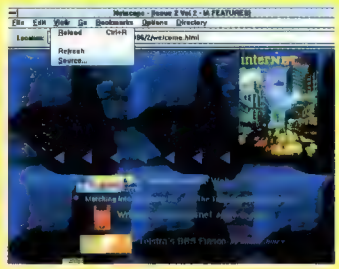
Regardless of the version you use, operating Netscape and other browsers involves basically the same procedures. To access a Web page, type the URL in the Go To: section or address bar. For a Web site, the URL begins with the letters http://, which stand for hypertext transfer protocol. You will also be able to access some other Internet applications such as FTP, newsgroups and Gopher by typing ftp://, news: or gopher:// before the address of the service you wish to use. An example is news://aus.general. In Netscape 2.0, click 'Windows' to see a list of options for mail and news. As you surf the Web, you will quickly build up a list of favourite sites that you want to return to.

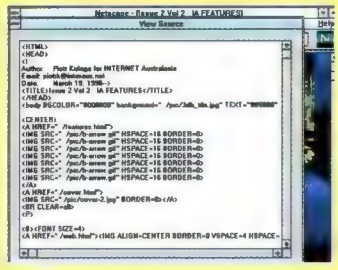
BOOKMARKS



Use the Bookmarks option to save their locations when you visit them. Activate the Bookmarks menu and you will see options for adding and retrieving bookmarks. Clicking the Add Bookmark option will save the location of the page you are currently viewing. To revisit a site you have bookmarked, click View Bookmarks, then click the title of the site. You will probably visit many sites in a given session. To go back to the site you last accessed, click the 'Back' button. The 'Forward' button will take you in the opposite direction in your explorations. To see the sites you have accessed in your current session, click the 'Go' menu. It's easier to access a site you visited several pages ago by clicking the 'Go' menu that using the 'Back' button several times.

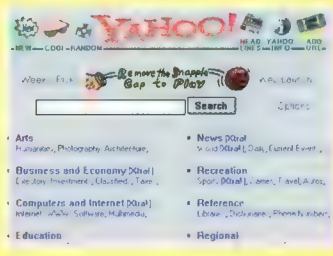
VIEW SOURCE





Each Web site is generated by your browser using HTML (hypertext markup language), a layout system that is written by the author of the site. To view the raw HTML 'source' of a page, go to the 'View' menu and scroll down to 'Document Source'. Studying the way a Web site has been composed is a great way to study HTML before you prepare to design your own personal home page. Thousands of Internet users are Net stars in their own right, thanks to home pages that feature their photographs, a brief biography, contact details and other information. Talk to your ISP about charges for home pages for further information. Sometimes, as a page loads, graphics or other sections fail to appear. If you have experienced a problem in loading a page, just hit the 'Reload' button and try again. Users who are in a hurry to read the contents of a page or are using slow connections can eliminate the loading of graphics by going to the 'Options' menu and selecting 'Auto Load Images'. Click it to eliminate the 'tick', and your browsing will be a lot faster. Clearly, there are more options in using your Web browser than we have explained here, but this will get you started. For further information on Netscape or Microsoft's Internet Explorer, visit these companies on the Web at **http://www.netscape.com** or **http://www.microsoft.com/**.

SEARCH ENGINES



The easiest and most efficient way to find what you are looking for on the Internet, is by using indexes or search engijnes, the same way you would use the Yellow Pages or an encyclopaedia to find what you are looking for.

Point your Web browser to one of the Net's indexes or search engines. Try Yahoo at **http://www.yahoo.com**, TradeWave Galaxy at **http://www.einet.net/** or Lycos at **http://www.lycos.com**.

Service Provider	Contact	Mail	News	Telnet	Gopher	FTP	IRC	WWW	PPP	SLIP	UUCP	ISDN semi-per.	ISDN dial-up	Frame Relay	28.8	14.4	Features & Costs
Access One	Dawson Johns Ph: 1800 818 391 Ph: (03) 9587 1444 Fx: (03) 9580 5581 info@aone.net.au	•	•	•	•	•	•	•	•	•		•	•	•	•	•	$79/yr registration, $38/mth.
APANA	Ph: (02) 635 1751	•	•	•	•	•	•	•	•	•	•				•	•	$20 registration plus $50 p.a.
AUSNet Services Ph: (089) 483 555 Ph: (08) 410 4433 Ph: (09) 321 4999 Ph: (06) 247 4955	Ph: (02) 241 5888 Fx: (02) 241 5898 Ph: (03) 9866 8266 Ph: (07) 221 4699 sales@world.net	•	•	•	•	•		•	•	•		•	•	•	•	•	$40/mth, corporate rates by negotiation, students $20/mth, $1.33/hr, no download limits.
BlueSky OPC	Ph: (07) 3344 5779 Fx: (07) 3344 5739 service@bluesky.net.au	•	•	•	•	•	•	•	•	•		•	•		•		$35/mth, $28/mth for 6 months and one year subscription unlimited access.
Compuserve Pacific	Ph: 1 800 025 240 Fx: (02) 410 4223 70006.101@ compuserve.com	•	•	•		•		•	•	•		•	•	•		•	$14.50/mth subscription plus 3 hrs access from $6/hr. 20hrs extra access $20.50/mth + online time charges.
Corinthian Internet Services	Warwick Marshall Ph: (02) 906 4333 Fx: (02) 906 1556 sales@cis.net.au	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Setup fee and flat annual rate based on bandwidth. Specialising in permanent access.
Dialix Ph: (02) 9948 6918 Ph: (03) 9562 2399 Ph: (06) 251 3811 Ph: (07) 3889 0799	Ph: (08) 231 6822 Ph: (09) 244 3233 Fx: (02) 9948 8449 Ph: 1902 292 004 info@dialix.com	•	•	•	•	•	•	•	•	•	•				•	•	PPP from $5.40/hr (day rate). Shell @ ¢60/hr plus ¢1/KB. No monthly annual minimums.
Hutchison Telecommunications (Australia) Ltd	Sales: 1800 500 889 Ph: (02) 9964 4888 Fx: (02) 9964 4848 info@hutch.com.au	•	•	•	•	•	•	•	•	•		•	•		•	•	Full IP access from $10/mth. Mobile Email Service for pagers and GSM phones.
IBM Global Network	John Whitney Ph: 1 800 645 336	•	•	•	•	•		•		•						•	$4.50 - $5.00/hr, (3 hrs free trial) $30 joining fee.
MagNet	Margaret Bridges Ph: (02) 361 0600 Fx: (02) 360 7254 Ph: (03) 9885 2644 Fx: (03) 9885 2677	•	•	•	•	•	•	•	•	•		•	•	•	•	•	$5/hr. Web service - design, storage, training & consultation. Corporate consultations, advertising agency service.
Microplex	Ph: (02) 438 1234	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	$25 setup, $4.00/hr.

ISP directory

national

New South Wales

Service Provider	Contact	Mail	News	Telnet	Gopher	FTP	IRC	WWW	PPP	SLIP	UUCP	ISDN semi-per.	ISDN dial-up	Frame Relay	28.8	14.4	Features & Costs
Netspace Online Systems	Sales Ph: (03) 9889 1122 Modem: (03) 9889 3883 Fx: (03) 9889 1133 info@netspace.net.au	●	●	●	●	●	●	●	●	●	●	●	●		●	●	SLIP&PPP, WWW pages & authoring, IRC, FTP, Telnet, Windows & Machintosh supported. Access from ¢60/hour.
OzEmail	Sales: 1800 805 874 Sales: (02) 391 0480 Fx: (02) 437 5888 info@ozemail.com.au	●	●	●	●	●	●	●	●	●		●	●	●	●	●	No download charges. Free 5MB workspace. Free unlimited technical support.
TPG Internet	Ph: (02) 886 0950 sales@tpgi.com.au	●	●	●	●	●	●	●	●			●		●	●	●	$25 registration + $175/yr for 20 hrs off peak per mth, $4.50/hr thereafter or peak hrs only ¢73/hr for 1st 20hrs/mth.
Wisenet	William Lung Ph: (02) 411 1896 Fx: (02) 419 3518 info@wisenet.net.au	●	●	●	●	●		●	●						●	●	$20/mth for 10 hrs, then $4/hr or $20 registration, then $4/hr; Also providing homepage services.
Acay Network Computing	Sales Ph: (02) 411 7340 Fx: (02) 411 7325 http://www.acay.com.au info@acay.com.au	●	●	●	●	●	●	●	●	●	●	●	●		●	●	Economy IP: $40/mth - 40 hrs free - $2/hr in excess. Time IP: $3.50/hr, no vol. charge. Dial-up access Campbeltown, Sydney, Gosford & Penrith.
ACS-Link	Ph: (02) 211 5855	●	●	●	●	●		●	●	●					●	●	$50 connection fee.(5-10hrs)
Albury Local Internet	Ph: (060) 40 2692	●	●	●	●	●	●	●	●	●		●	●	●	●	●	$50 registration. $5-8/hr.
ACS-Link	Ph: (02) 211 5855	●	●	●	●	●		●	●	●					●	●	$50 connection fee.(5-10hrs)
A.R. Internet	Scott Golby Ph: (02) 809 3148 Modem: (02) 809 0999 Fx: (02) 809 3385 info@ar.com.au	●	●	●	●	●	●	●		●					●	●	SLIP/PPP $20/mth or $2.50/hr, shell $17.50/$1.50 flat rate. No setup fee on accounts. Web advertising space. aust.info@ar.com.au.
AIC	Ph: (02) 231 2211 Fx: (02) 221 7598 info@aic.net.au http:www.aic.net.au	●	●	●	●	●	●	●	●	●		●	●		●	●	$30 flat monthly fee, no download or time charges, specialise in web housing.
BabelSoft	Ph: (02) 9953 0368	●	●	●	●	●	●	●	●	●	●				●	●	$45/Mth. No time/usage chg.
Connect Infobahn Australia	Ph: (02) 566 2720 Fx: (02) 566 2721 sales@cia.com.au http://www.cia.com.au	●	●	●	●	●	●	●	●	●		●	●	●	●	●	Priority saver: $1.50/hr, no monthly minimum. Premium: $35/mth. Permanent 28.8K: $199/mth, Permanent 64K: $599/mth.

Please phone *Internet Australasia* on: (61+2) 235 1550 or email to: isp@interaus.net if you wish to be included in Our monthly directory of service providers in Australia.

Service Provider	Contact	Mail	News	Telnet	Gopher	FTP	IRC	WWW	PPP	SLIP	UUCP	ISDN Semi-Per.	ISDN Dial-up	Frame Relay	28.8	14.4	Features & Costs
Cyberloom	Tom Berger/Harris Kavadas Ph: (02) 212 4263 Fx: (02) 212 4218 info@loom.com.au http://www.loom.com.au	●	●	●	●	●	●	●	●	●		●	●		●	●	Flexible pricing from 7c/min to $40/mth. 28.8K lines. No traffic charges. Corporate POA. WWW publishing.
Dragon Net	Ph: (02) 363 9432 Fx: (02) 327 4908	●	●	●	●	●	●	●	●	●	●				●	●	From $49/mth for 20hrs access & 20MB download. Dedicated modem installation for $600 & $99/mth plus $1.50/MB.
Fastlink Communications	Sydney: (02) 627 3054 Newcastle: (049) 54 3993 Gosford: (043) 69 6224 http://www.fastlink.com.au sysop@fastlink.com.au	●	●	●	●	●	●	●	●			●	●		●	●	Local call access in Sydney, Penrith, Campbelltown, Windsor, Newcastle & Gosford. $40 for 30 hrs/mth. No time or data charge.
First Link	Andrew Foster Ph: (02) 873 3577 Fx: (02) 873 3297 accounts@fl.com.au http://www.fl.com.au	●	●	●	●	●	●	●	●	●					●	●	$30/mth, no time, vol. or setup charges. WWW pages avail. for all users, domain reg., comm. WWW sites, perm. connections & IPS, $15 reg.
Flexit	Ph: (02) 707 3622 Fx: (02) 709 3622 flex@flex.com.au	●	●	●	●	●	●	●	●	●	●	●	●		●	●	$25 registration incl. 5hrs free access, then $5/hr. Specialising in business connections.
Geko	Ph: (02) 439 1999	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	$20 setup + $45/mth.
Healey Communications	Ph: (02) 834 2181	●	●	●	●	●	●	●	●	●					●	●	$25/mth flat rate.
Hunterlink	Sales Ph: (049) 61 5544 Fx: (049) 61 5311 sales@hunterlink.net.au	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	$25 registration, $3-6/hr flat rate, no volume charges, no monthly fees. $40 for 40 hrs option available. Perm/Semi-perm connections also avail.
Hydra Communications	Ph: (02) 897 5522	●	●	●		●	●	●	●	●					●	●	$30/mth or $1hr. No limits.
Ideal Internet Services	Ph: (046) 288 888	●	●	●	●	●	●	●	●	●						●	$35reg, 30hrs or > @ $35/mth
Imagine Communications	Ph: (02) 314 0062 Fx: (02) 314 2595	●	●	●	●	●	●	●	●	●		●	●		●	●	$20 setup, $35/mth for 40 hrs/mth. No download limits. Web page authoring.
Infinet Axs Pty Ltd	Ph: (02) 662 3530 Fx: (02) 662 6420 account@infinet.net.au http://www.infinet.net.au	●	●	●		●	●	●	●	●					●	●	$28/mth only No download & no time limit. Rego. $38. And other services call
INIAccess	Ph: (049) 876 083	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	60¢/hr to $4/hr.

New South Wales

Victoria

Service Provider	Contact	Mail	News	Telnet	Gopher	FTP	IRC	WWW	PPP	SLIP	UUCP	ISDN semi-per.	ISDN dial-up	Frame Relay	28.8	14.4	Features & Costs
Magnadata	PH: (02) 264 7326 FX: (02) 264 7308 MODEM: 267 7711 info@magna.com.au	●	●	●	●	●	●	●	●	●		●	●	●	●	●	$49/mth SLI/PPP, 20MB allowance then $2/MB. WWW housing & development. 28.8K dial-in or dedicated, also ISDN.
Nectar Online Services	JOSH LEVY PH: (02) 9958 5740 FX: (02) 9967 4447 INFO@NECTAR.COM.AU HTTP:WWW.NECTAR.COM.AU	●	●	●	●	●	●	●	●		●				●	●	$30/mth PPP/shell. No time charges. No download charges. Permanent 28.8K connection enquiries welcome.
Netro	PH: (02) 876 8588	●	●	●	●	●	●	●	●		●	●	●	●	●	●	$25 setup + $40/mth (30hrs).
Netwit Connections	STANLEY COWN OR ADAM WELLS PH: (063) 610 230 FX: (063) 610 235 stanley@netwit.nat.au	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	Dial-up $100 annual, $5/hr. Cater to the Central West
Next Online	PH: (02) 310 1433	●	●	●	●	●	●	●		●		●			●	●	$30 reg. + $25/mth (5hrs).
Om.Com	PH: (066) 87 7117	●	●	●	●	●	●	●	●			●	●		●	●	From $3 p/h.
Penrith NetCom	LUKE MACKINNON PH: (047) 35 7000 FX: (047) 35 7000 info@pnc.com.au	●	●	●	●	●	●	●	●	●	●	●	●		●	●	Free Web space, $40 registration fee. Plans ranging from $5/hr - $1/hr for PPP/SLIP no vol. charges.
RealNet Access	JEREMY BARNETT PH: (02) 212 4900 FX: (02) 212 1823 jem@real.com.au http://www.real.com.au	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	$40/mth flat rate gives 10hrs/wk, full access $25 connection, unlimited downloads.
TMX	PH: (02) 550 4448	●	●	●	●	●	●	●	●	●	●	●	●		●	●	Setup: $95, $1/hr, $2/MB.
World Reach	PH: (02) 436 3588	●	●	●	●	●	●	●	●	●	●	●	●		●	●	$30/mth flat rate.
Zeta Microcomputers	NICK ANDREW PH: (02) 837 1397 FX: (02) 837 3753 MODEM: (02) 837 1868 info@zeta.org.au	●	●	●	●	●	●	●	●	●		●	●		●	●	SLIP/PPP $1.50/hr, min. $15/mth, permanent link & WWW hosting services also provided. Service with Quality.
Aardvark Internet	PH: 015 883 085	●	●	●	●	●	●	●		●					●	●	$20/mth or $150/yr,1hr/day.
Access Net Australia	PH: (03) 9686 4192	●	●	●	●	●	●	●	●	●	●		●		●	●	Cas $30 + $270, perm $1850
Accserve	PH: (03) 9747 9823	●	●			●					●					●	$13/mth FTP, UUCP, MHS.
AlphaLink	PH: (041) 200 2575	●	●	●	●	●	●	●	●	●					●	●	$100/yr. No time charges.
Australia Online	PH: (03) 9888 2622	●	●	●	●	●	●	●	●	●	●	●	●		●	●	Setup $25 min. $15.60/mth.

Service Provider	Contact	Mail	News	Telnet	Gopher	FTP	IRC	WWW	PPP	SLIP	UUCP	ISDN semi-perl	ISDN dial-up	Frame Relay	28.8	14.4	Features & Costs
Australian Netlink	Sharon or Peter Ph: (03) 9690 0660 Fx: (03) 9690 0668 info@netlink.com.au http://www.netlink.com.au	●	●	●	●	●	●	●	●	●	●	●	●		●	●	$140 to $250/year. No volume charges, free technical support, special business packages.
Ballarat Netconnect	Sharon Pritchard Ph: (053) 322 140 Fx: (053) 302 820 info@netconnect.com.au	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	Dial-up from $85 setup plus $5/hr, semi-permanent from $3,500 setup and $325/mth (38.4K), to $5,000 setup and $375/mth (64K).
Bendigo Internet	Ph: (054) 46 2666	●	●	●	●	●	●	●	●	●	●	●	●		●	●	Dial-up $5/hr. Perm. 220/mth.
Computer Circuit P/L	Paul Sondhu Ph: (053) 826 959 Fx: (053) 826 301 info@comcirc.com.au	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	Winmera, V.34, $5/hr.
Connect.com.au	Ph: 1800 818 262	●	●	●	●	●	●	●	●	●	●	●	●		●	●	$20 per 3 mths for 1hr/day.
Deamon	Modem: (03) 9563 8438	●	●	●	●	●	●	●	●	●					●	●	$60/year for 1hr/day.
Hardnet Networking	Ph: (03) 9761 1378	●	●	●	●	●	●	●	●	●		●	●		●	●	$195/yr, no usage fees.
Hilink Communications	Ph: (03) 9528 2018	●	●	●	●	●	●	●	●	●	●	●	●		●	●	$95 establishment + $90/qtr.
Informatel	Ph: (03) 9419 5753	●	●	●	●	●	●	●		●	●	●	●				12.5c/min SLIP plus $1.5/MB.
Interdomain Pty Ltd.	Ph: (03) 9686 6000 info@interdomain.net.au	●	●	●	●	●	●	●	●	●					●	●	$10/mth (incl 5hrs) + 3/hr for extra hrs. Free Web page up to 1MB. Call for full prices & services list.
Internet Access Aust.	Ph: (03) 9576 4222	●	●	●	●	●	●	●		●	●	●	●				12.5c/min SLIP plus $1.5/MB.
Internet Interface Sys.	Ph: (03) 9525 0922	●	●	●	●	●	●	●	●	●		●	●	●	●	●	$25/mth first 3hrs; + $7/hr.
Jeack	John Auckett Ph: (03) 9879 5538 john@jeack.apana.org.au	●	●	●	●	●	●	●	●	●						●	$60/yr or $20/quarter. Unix Shell, easy menus, online help, SLIP/PPP available. Winsock install software. No volume charges.
Mira	Ph: (03) 9882 8100	●	●	●		●	●	●	●	●	●	●	●		●	●	$35/year + $2.50/hr. No vol.
Nemesis	Ph: (03) 9819 3090 Fx: (03) 9818 3309 Modem (03) 9331 1155 sysop@nemesis.com.au http://www.nemesis.com.au	●	●	●	●	●	●	●	●	●	●				●	●	$1.20/hr (free home page) $49/mth Business Accounts. Corporate Solutions, Domain Names. WWW Services & IP connections.
NetExpress Geelong	Ph: (052) 222 809	●	●	●	●	●	●	●	●	●	●	●			●	●	$30 flat rate, $4/hr after.

Please phone *Internet Australasia* on: (61+2) 235 1550 or email to: isp@interaus.net if you wish to be included in Our monthly directory of service providers in Australia.

ISP directory

Victoria

Western Australia

Service Provider	Contact	Mail	News	Telnet	Gopher	FTP	IRC	WWW	PPP	SLIP	UUCP	ISDN semi-per.	ISDN dial-up	Frame Relay	28.8	14.4	Features & Costs
Netwide	Carmel Sabljak Ph: (03) 9841 0501 Fx: (03) 9841 0498 info@netwide.com.au	•	•	•	•	•	•	•	•	•					•	•	$30/mth = 1hr/day $35/mth = 20hrs/mth $40/mth = 1.5hrs/day $3/hr excess (pro-rata) Web & Firewall consulting.
Ocean	Ph: (03) 9602 5252	•	•	•	•	•	•	•	•	•	•	•	•		•	•	$20/mth 1hr/day $2/hr after.
Pyromania	Ph: (03) 9650 4776	•	•	•	•	•	•	•	•	•	•				•	•	$130/year (30hrs/mth).
Rural Net	Nick Lambropoulos Ph: (050) 22 2044 Mobile: 018 14 7931 Fx: (050) 23 8777 nick@moenet.com.au	•	•	•	•	•	•	•	•	•		•	•		•		$20 connection fee. $4/hr off peak, $6/hr peak or $80 minimum charge (40hrs) access $2/hr after.
SchoolsNet	Daniel Ingvarson Ph: (03) 9214 0125 Fx: (03) 9214 0102 info@schnet.edu.au	•	•	•	•	•	•	•		•		•			•	•	Full Net connections, all equip. & install included, 24hr connection. $4,400/yr. Specialists in school install. Censoring software included.
Starway Corporation	Ph: (03) 9844 1758		•					•	•	•		•	•		•	•	$1,200 PSTN, $3,200 ISDN.
Suburbia	info@suburbia.net	•	•	•	•	•	•	•	•	•						•	$9/mth or $7mth concession
Sunraysia Moenet	Ph: (050) 22 2044	•	•	•	•	•	•	•	•	•		•	•		•		$20 setup + $80/mth – 40hrs
Wurley Internet Access	Ph: (03) 9593 9221	•	•	•	•	•	•	•	•	•					•	•	$100/yr, 3hrs/day SLIP/PPP.
VicNet	Ph: (03) 9669 9710	•	•	•	•	•	•	•	•			•			•	•	$20/mth for 20 hrs $5/hr add
Vitel C.N.S.	Ph: (03) 9574 8400	•						•	•						•		$50 reg $250/yr mail & 26hrs
Bajari Enterprises BeNet	Ph: (099) 80 1500	•	•				•	•							•	•	$45 setup $45 mth
Collective Internet Svc.	H: (09) 447 0199	•	•	•		•	•	•	•	•	•				•	•	$15/mth or $160/yr.
Drasnian Technologies	Ph: (09) 447 6261	•	•	•	•	•	•	•	•	•	•	•			•	•	$25 startup + $20/mth.
Global Net P/L	Ph: (09) 248 9950 Fx: (09) 248 9948 info@globalnet.net.au	•	•	•	•	•	•	•	•	•		•			•	•	Accounts from $10/mth. No volume charges.
IINet Technologies	Ph: (09) 332 7770	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	$25 setup + $25/mth.
Informed Technology	Ph: (09) 245 2279	•	•	•	•	•	•	•	•	•	•	•	•		•	•	$15/mth, int'l $2/MB.
Internet Infobahn	Craig Hoskin Ph: 0411 264 409 Fx: (09) 245 3643 iiadmin@infobahn.com.au	•	•	•	•	•		•	•	•		•	•		•	•	Totally business oriented service. Firewall, local caching. Accounts: $100/mth (bulk discounts apply). No reg, time or volume fes.
Interworld Comm's	Ph: (09) 389 9394	•	•	•	•	•	•	•	•			•	•		•	•	$35/mth. No time charges.
Online Internet Serv.	Ph: (09) 250 1464	•	•	•	•	•	•	•	•	•		•	•	•		•	Accounts from $10/mth.

ISP directory

Service Provider	Contact	Mail	News	Telnet	Gopher	FTP	IRC	WWW	PPP	SLIP	UUCP	ISDN semi-per.	ISDN dial-up	Frame Relay	28.8	14.4	Features & Costs
W.A.																	
Q-Net Australia Pty Ltd	PH: (09) 386 5555	•	•	•	•	•	•	•	•	•		•	•		•	•	Fac.avail. from $25/mth
Stour System Services	PH: (09) 571 1949	•	•	•	•	•	•	•	•	•					•	•	$25 setup. $30/mth SLIP/PPP.
Tower Internet Service	PH: (09) 316 3036	•	•	•	•	•	•	•	•	•	•	•	•		•	•	$49.95/mth for Non-Vol. acct.
Wantree Development	PH: (09) 385 3315	•	•	•	•	•	•	•	•	•	•	•	•		•	•	$20/mth for 1hr/day.
Winthrop Technology	PH: (09) 380 2403 FX: (09) 382 1688 wthelp@wt.com.au http://www.wt.com.au	•	•	•	•	•	•	•	•	•		•	•		•	•	$14 to $60 per month Discounts available ISDN from $10 000 pa 24 hour support
Queensland																	
AusInfo.com.au	PH: (07) 5578 8518	•	•	•	•	•	•	•	•			•			•		Gold Coast acc. Acconts $10.
BlueSky OPC	PH: (07) 3344 5779 FX: (07) 3344 5739 service@bluesky.net.au	•	•	•	•	•	•	•	•	•		•	•		•		$35/mth, $28/mth for 6 months and one year subscription unlimited access.
Brisbane Internet Tech	PH: (07) 3252 1600	•	•	•	•	•	•	•	•	•	•	•	•		•	•	Usave to needs, gen. $1/hr.
Brisnet	PH: (07) 372 5296	•	•	•	•	•	•	•	•	•	•	•	•		•	•	$500/yr permanent SLIP.
Cynergy	PH: (07) 3357 1100	•	•	•	•	•	•	•	•			•			•	•	Free WWW for person. users.
EIS.Net	SEAN MYERS OR REBECA SEECER PH: (07) 3229 9044 info@eis.net.au http://www.eis.net.au	•	•	•	•	•	•	•	•	•	•	•	•		•	•	14.4K up to 5/hrs/day $240/yr, 28.8K up to 4hrs/day $390/yr. Free home page. WWWsite set up. Perm. and commercial connections.
Global Info Links	CATHY WATSON PH: (07) 3810 6787 FX: (07) 3810 6744 giladmin@gil.com.au	•	•	•	•	•		•	•	•					•	•	Access ranging from 80¢ to $1.40/hr; Free home page for subscribers; Permanent Dial-up access $3500/yr.
Hub Comunications	PH: (07) 322 91119	•	•	•	•	•	•	•	•	•	•	•	•		•		No vol. charges, $20 hrs free.
Internet North	PH: (070) 33 2311	•	•	•	•	•		•	•			•	•		•	•	$40 registration, $40/mth.
Internet Townsville	PH: (077) 24 2021	•	•	•	•	•	•	•	•			•	•		•	•	$40 registration, $40/mth.
Net-Trek Australia P/L	SIMON QUINTON PH: 1800 063 253 PH: (077) 5526 4655 FX: (07) 5526 4955 ask@mars.nettreck.net.au	•	•	•	•	•	•	•	•	•	•	•	•		•	•	$75 registration. $50/mth SLIP/PPP. 20MBB allowance then $1.50/MB. Full WWW authoring & storage. 28.8 dial in or dedicated.
Nth. Qld Internet Svc.	PH: (077) 23 1532	•	•												•	•	$60/yr, 1hr/day + $1/MB.

Please phone *Internet Australasia* on: (61+2) 235 1550 or email to: isp@interaus.net if you wish to be included in Our monthly directory of service providers in Australia.

ISP directory

Service Provider	Contact	Mail	News	Telnet	Gopher	FTP	IRC	WWW	PPP	SLIP	UUCP	ISDN semi-per.	ISDN dial-up	Frame Relay	28.8	14.4	Features & Costs
Queensland																	
On The Net	Michael Daiziel Ph: (07) 5593 3535 Fx: (07) 5593 3557 info@onthenet.com.au	•	•	•	•	•	•	•	•	•	•	•	•		•		Gold Coast local call access. 48 lines, SLIP/PPP from $20/mth. Free home page for subscribers. Permanent connections & ISDN.
Odyssey World	Ph: (07) 3854 1066	•	•	•	•	•	•	•	•		•	•	•		•	•	$50/mth or$599/year.
PowerUp Internet P/L	Joe Altoff Ph: (07) 3899 3366 Fx: (07) 3399 1003 info@powerup.com.au http://www.powerup.com.au	•	•	•	•	•	•	•	•	•	•	•	•		•	•	Full Internet access, No vol. charges. Free personal Web page. Connection plans as low as 41¢/hr. Free unlimited tech support 9am to 10pm.
Ultranet	Ph: (77) 24 1137	•	•	•		•		•	•		•	•	•		•	•	$40/mth for 1hr/day.
South Australia																	
ADAM Pty Ltd	Ph: 018 824 648	•	•	•	•	•	•	•	•		•	•			•	•	$60/yr BBS + 70c/hr Internet.
Camtech P/L	Ph: +61 8 303 3315 Fx: +612 8 303 4403 http://camtech.com.au info@camtech.com.au	•	•	•	•	•	•	•	•	•	•	•	•		•	•	Personal setup $95, cassual $5/hr or power user $600/yr. No volume charges. 10MBPS link.
Internode Professional Access	Janet Robertson Ph: (08) 373 1020 Fx: (08) 373 4911 sales@internode.net.au	•	•	•	•	•	•	•	•			•	•		•	•	Full TCP/IP Web & FTP server rental, Firewall systems. For pricing http://www.adelaide.on.net
Merlin Australia	Ph: (08) 363 3789	•	•	•	•	•	•	•	•			•			•	•	$40 setup $29/mth unltd/acc
Microtronics	Ph: (08) 212 1799	•	•	•	•	•	•	•	•	•		•				•	$25 reg. $20/mth or $220/yr.
SE Network Access	Ph: (08) 270 3338	•	•	•	•	•	•	•	•	•	•				•	•	$80 establishment + $1/hr.
Tasmania																	
Access One	Adam Seabrook/Andrew Rigby Ph: (002) 234 700 Fx: (002) 240 730 tasconnect@h130.aone.net.au http://www.aone.net.au	•	•	•	•	•	•	•	•	•		•	•	•	•	•	Australia's largest & fastest network. Flexible charging plans. Free trial accounts available. Tasmania's only business oriented provider.
Tasman. Access Server	Ph: 1800 633 435 Ph: (003) 343 536 Fx: (003) 343 537 info@Tassie.net.au http://www.Tassie.net.au	•	•	•	•	•	•	•	•	•	•	•			•	•	$5/hr ($2.50/hr between midnight and 7am). No minimum monthly fee. Local call access across most of Tasmania.
Vision Internet Services	Roy Austen Ph: 1800 646 331 Ph: (003) 444 432 Fx: (003) 433 201 info@vision.net.au	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	$35 setup, connection plans from 44 cents/hr, half price night-owl rate, free personal Web pages, Std FREE access across most of Nth Tasmania.

Please phone *Internet Australasia* on: (61+2) 235 1550 or email to: isp@interaus.net if you wish to be included in Our monthly directory of service providers in Australia.

ADvertisers INDEX

inside front	Net Space Online Systems
p1	CompuServe Pacific
p2-3	Intel
p11	Internet Jewellery
p21	Kralizec Dialup Internet System
p25	AUSNet Services Pty Ltd
p29	BlueSky OPC Pty Ltd
p33	REALNET Access
p35	Connect
p36	Tourist Radio Internet Pyt Ltd
p37	Speedware
p38	Open Systems Pty Ltd
p39	Suburbia
p40	Acelnet
p41	Dymocks Booksellers
p42	On the Net
p43	Contal Information Technology
p44	Norsearch Conference Services
p45	GETNET Global Enterprise Trading
p53	RP DataNet
p56-57	Access One
p61	Timeguard
p96	New Scientist Magazine
p112	Modem Magic
inside back	AUSNet Services Pty Ltd
back cover	Toyota

Volume 2 Issue 4

Subscribe to INTERNET Australasia @ MAGAZINE **NOW**

and get yourself connected with everything that's happening on the internet

- Yes, I would like a 12-month subscription to *Internet Australasia*
- I enclose a cheque or postal order for A$65.00
  (Payable to Internet Australasia Publications)

Visa Mastercard Bankcard

Credit card number: Expiry Date: /

Corporate User Proffessional Student Home User

Age 10-20 Age 21-30 Age 31-40 Age 40+

Name: _____

Address: _____

_____

State: _____ Postcode: _____ Country: _____

Phone: ( ) _____ Signature: _____

Fax this form to **(02) 247 3330**, email to **subs@interaus.net**, mail to **GPO Box 2518, SYDNEY NSW 2001** or call us on **(02) 235 1550**. *Overseas: New Zealand A$108, Asia A$138.*

Modem Superstore™

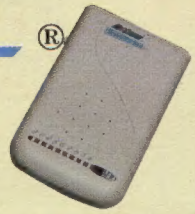
When you need the right advice on Modems or Fax Modems, call us. We only sell modems. We specialise in modems. We carry all the brands. You get expert advice on communication solutions.

For all Modems & Faxmodems

Banksia MODEMS

V.34 28.8K from $399*

NetComm®



V.34 28.8K from $399*

AVTEK DATA COMMUNICATIONS

V.34 28.8K from $399

Dynalink

V.34 28.8K from $399*

SPIRIT VIPER

V.34 28.8K from $375*

Hayes

V.34 28.8K from $499

Comcorp TECHNOLOGIES
Simplicity in Communication

V.34 28.8K from $519
WIth Digital LCD Readout

US Robotics®

V.34 28.8K from $499

Maestro

V.34 28.8K from $549

*Prices for Internal Models
Pictures above for illustrative purposes only.

SWITCHING ROADSTER® NetComm

Auto Voice/Fax detect

Auto Detect Voice/Fax calls

The Roadster can now automatically detect between Voice and Fax calls. Fax switches, line sharers or 2 phone lines are no longer required. Call for more details.

Video Conferencing

on Internet with Windows®

Camera - 64 Greyscale 24fps with Quick Movie and Quick Picture software. Call now for more details.

Make Overseas phone calls at Internet rates.

QUARTERDECK WebTalk

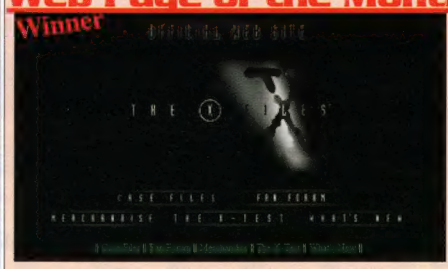
Make yourself heard.

eg: As low as $2.50 per hour.

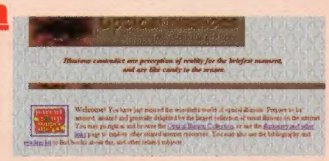
Includes 2 Licences, Microphone, Webtalk Software and Quarterdeck Mosaic. Call now for more details

Web Page of the Month

Winner



1st from Isikeli Raicebe NSW
http://www.thex-files.com
X-Files Fans - A visit is a must.



2nd from Simon of Victoria -
Great for the family - optical illusions.
http://lainet3.lainet.com/~ausbourn/

3rd from Ryan of Queensland-
http://www.pepsi.com Great use of Java, Real Audio & Shock wave

We asked you to send us your best web page. Here are the *best* threefor May. 1st Prize each month recieves a *16650* 32-byte buffer Serial Card 230Kbps. Email your entries to commandc@modemware.com.au

PC 96 BRISBANE
BRISBANE
THE PERSONAL COMPUTER SHOW
Convention Centre
Brisbane 14 - 16 May

PC 96 BRISBANE •

From the 14th to the 16th of May at Brisbane Convention Centre
See us on Stand 232 for Show Specials.

May Tech Tip

Overrun Errors: If you get CRC or Overrun errors when up or downloading with FTP or BBS's or transmission stops or slows dramatically try these fixes.

- Make sure RTS/CTS Hardware Flow control is set to ON
- Disable all other flow control measures
- Check for 16550 UART using MSD

VISA eftpos MasterCard bankcard

Modem Superstore Your 14 Day Money Back Guarantee of Service

- QLD Call: (07) 3857 2833
Shop 2, 524 Lutwiche Road, Lutwiche QLD 4030
Fax: (07) 3857 2844
- NSW Call: (02) 743 1144
26 Cabarita Road Concord NSW 2137
Fax: (02) 736 1212 http://www.modemware.com.au
- VIC Call: (03) 9899 4744
167 Middleborough Rd.Box Hill South Vic. 3128
Fax: (03) 9899 4722 - BBS: (03) 9899 4733

All Registered Trademarks and names belong to their various registered owners. Prices subject to change without notice. E. & O. E. * Judges decision is final & no discussion will be entered into.

you@world.net

We offer you:

- an exclusive **yourname@world.net** email address,
- **full Internet** access through our high performance international network,
- economy access accounts - 6 hours per month for only **$19.95** (or choose one of our other cost-effective access plans).

Call: 1800 806 755

performance you can count on AUSNet

Email	sales@world.net
Sydney	(02) 241 5888
Melbourne	(03) 9866 8266
Adelaide	(08) 410 4433
Darwin	(089) 48 3555
Brisbane	(07) 3221 4699
Canberra	(06) 247 4955
Perth	(09) 321 4999

Saatchi's TY 2727/B. http://www.toyota.com.au

Some people think that small cars are nothing more than tin cans. They think a small car couldn't possibly have extra strengthened doors. Let alone dynamic side intrusion protection and front and rear crumple zones. Who would expect a small car to have pretensioner seatbelts?

And who's ever heard of a small car with a bassy stereo and twin cam multi-valve engine? But then the world's never seen a small car quite like this. New Toyota Starlet. It's about to blow the competition away.

Oh what a feeling! **TOYOTA STARLET**